Intelligent cities? Disentangling the symbolic and material effects of technopole planning practices in Cyberjaya, Malaysia.

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Intelligent Cities? Disentangling the Symbolic and Material Effects of Technopole Planning Practices in Cyberjaya, Malaysia.

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Abstract

Cyberjaya was heralded in the mid-1990s as the Multimedia Super Corridor's (MSC) flagship 'intelligent city' and designed to prepare Malaysia and its citizens for a giant leap forward into an imagined new 'information age'. The urban mega-project constituted a state led response to the much hyped 'Siliconisation of Asia' and was planned to fast-track national development through investment in information and communications technologies (ICTs). The thesis seeks to examine how the discursive architectures of the 'information society' were mobilised, by whom, and with what material consequences as technopole planning practices were inscribed on the Malaysian landscape. Ten years on from the excessive high-tech utopianism and urban boosterism that accompanied the city's launch, the thesis promotes qualitative methodologies to examine the critical human geographies of the MSC. Specifically, empirical analysis addresses the uneven socio-spatial consequences and 'splintering urbanisms' manifesting in Malaysia's emerging spaces of neoliberal modernity. Research methodologies included in-depth interviews with political and business elites in Malaysia, participant observation with residents and workers in Cyberjaya, and a critical discourse analysis of the MSC policy and promotional materials. To this end, the thesis seeks to disentangle the symbolic and material effects of technopole planning practices in Cyberjaya.

Keywords: Malaysia, Cyberjaya, Technopole, Technology, Symbolism, Everyday Geographies.

Declaration

None of the material has previously been submitted for a degree at the University of Durham or any other university.

Statement of Copyright

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List of Abbreviations

BOG	Bill of Guarantees
BPO	Business Process Outsourcing
EPZ	Export Processing Zone
ERL	Express Rail Link
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GIC	Global Intelligence Corps
GNP	Gross National Product
HICOM	Heavy Industries Corporation of Malaysia
IAP	International Advisory Panel
ICT	Information and Communications Technology
ISA	Internal Security Act
I.T.	Information Technology
JPBM	Malaysian Federal Department of Town and County Planning
KLCC	Kuala Lumpur City Centre
KLIA	Kuala Lumpur International Airport
KLMA	Kuala Lumpur Metropolitan Area
LKW	Limkokwing University
MCA	Malaysian Chinese Association
MDEC	Multimedia Development Corporation
MIC	Malaysian Indian Congress
MIMOS	Malaysian Institute of Microelectronic Systems
MMU	Multimedia University
MNC	Multinational Corporation
MSC	Multimedia Super Corridor
MTDC	Malaysian Technology Development Corporation
NDP	National Development Policy
NEP	New Economic Policy
NIC	Newly Industrialising Country
NIDL	New International Division of Labour
NITA	National Information Technology Agenda
NITC	National Information Technology Council
NST	New Straits Times
NTT	Nippon Telegraph and Telephone Corporation
R&D	Research and Development
RM	Ringgit Malaysia
SSO	Shared Service and Outsourcing
TPM	Technology Park Malaysia
UMNO	United Malays National Organisation

Chapter 1. Introduction

1.1. Introduction

Technopoles have been described by Castells and Hall (1994: 1) as the 'mines and foundries of the informational economy'. Conceptualised in more than just technological terms (i.e. networking cities with telecommunications), technopoles are new urban-industrial complexes geared towards research and development activities and high value-added innovation in information technology (I.T.) and multimedia industries. Technopoles have been planned by state actors across the world to create 'innovative milieu' (Castells and Hall 1994) where an imagined knowledge based, 'new economy' (Leadbeater 1999) could be cultivated. Their physical form consists of futuristic looking, low-rise office buildings dispersed in a secured campus style layout set in sylvan landscapes physically and infrastructurally 'splintered' (Graham and Marvin 2001) from the rest of society. Each aspirational project (e.g. technology parks, technoburbs, science parks, 'intelligent' cities etc) has sought to emphasise its purported 'uniqueness' through a variety of urban boosterism strategies accompanying competing claims of becoming 'wired', 'intelligent', 'silicon', 'cyber', or 'techno' places. However, despite this, each project follows in a long line of technopoles that aspires to replicate the 'model' of Silicon Valley, California, in an ongoing quest to become both an iconographic exemplar symbolising national arrival in the 'information age' and a global hub for high-tech industries.

Rather than seek to identify the 'criteria' for successful technopole development, or compare and evaluate the planned versus actual outcomes of individual projects, the thesis addresses the symbolic and material effects of technopole planning practices to critically examine: (1) the symbolic-

discursive production of these aspiring high-tech places by international consultants, policy makers and government officials; (2) the material reproduction of 'information society' and 'new economy' discourses through technopole planning practices; (3) emerging human geographies focused on the everyday live/work practices of individuals who inhabit these spaces. In turn, the thesis seeks to advance existing debates concerning the uneven socio-spatial consequences of technopole planning practices to contest technologically deterministic, celebratory 'new era' accounts of national and regional development driven by information and communications technologies (e.g. Ohmae 1991). The thesis examines these processes through a critical geographical analysis of the Malaysian government's Multimedia Super Corridor mega-project and its flagship 'intelligent city' technopole of Cyberjaya.

1.2. Background

Technopole developments span the world and their presence can be seen in numerous urban regions from Silicon Valley to Singapore from Boston to Bangalore. However, these projects have not emerged by chance; rather they represent attempts by public and private sector actors to respond to three major socioeconomic trends. Firstly, over the last 25 years speculation concerning the interrelations between information and communications technologies (ICTs), globalisation, and urban change often led to technologically deterministic accounts about the coming of a utopian 'information society' (Bell 1976; Lyon 1988; Webster 1995).[1] A wave of commentators, business writers, futurists, journalists, novelists, and *even* social scientists predicted the coming of a new technological epoch, in which the increasing penetration of information technology (I.T.) was forecast to affect all aspects of cultural, economic, social, religious, and political life. These predictions were often infected by speculative futurology whereby potential implications of technological change were portrayed as a

[1] I place the term in inverted commas to signal my doubts about its accuracy (see Chapter 3).

transformative 'new wave' affecting society on an unprecedented scale (McLuhan 1964; Toffler 1980).

For example, it was predicted that the 'old economy' (industrial, manufacturing-based, urban, Fordist) was to be replaced by a 'new economy' (knowledge based, innovative, 'anywhere-anytime', flexible accumulation). Such 'new economy' discourses promoted the internet (i.e. e-commerce) and information technologies as a new driver of economic competitiveness (Gates 1995). In response to these predictions state actors sought to invest in ICT based economic development and urban telecommunications policies in readiness for an emerging 'digital age' (Negroponte 1995; Gosling 1997).

Secondly, while few can doubt the enormity of such technological changes it is now widely acknowledged that the 'information society' is an increasingly urban society (Graham 2004a). Paradoxically, despite predictions concerning the growth of 'anytime/anywhere' 'informationalised capitalism', as the global economy expanded it has become organised around specific cities (or parts within them) which manage, control and coordinate transnational flows. These 'command and control centres' for the 'new economy' (Sassen 1999b; Sassen 2001b) traditionally include global cities (e.g. London, New York) but also extend to technopoles that have been optimistically prepared by national governments as 'fixing points' (Harvey 1982) for global capital through a range of location incentives, infrastructure provisions, and place marketing devices.

Thirdly, as a consequence there has been growing competition from policy makers to reposition urban spaces within the nation state as high-tech sites conducive to a globalising 'new economy'. Technopole planning strategies have been mobilised in urban telecommunications policy by state actors as a means for: (a) creating a real and symbolic node for 'hooking up' to the

global economy (Olds 2001) ; (b) utilising the perceived transformative potential of ICTs for local, regional, and national development; (c) re-scaling national competitiveness through specific globally orientated networked sub-economies (Sassen 2001c).

The above processes have been exemplified in East and Southeast Asia where a number of developmental states were caught up in a race to realise the benefits of information technology for national development from the mid-1990s onwards. The region has become the global centre for technopole planning practices as a number of projects have been self-consciously built - often in collaboration with Olds' (1999; 2001) 'Global Intelligence Corps' of multinational planning and consultancy firms - as a means of 'plugging into' and shaping a putative 'information society' and 'new economy'. Technopole development strategies in these regions have not just focused on economic development, but moreover have emphasised the utopian potential of ICTs for broader social and cultural modernisation (Uimonen 2001). Flagship development 'mega-projects' include Singapore's Science Park and 'Intelligent Island' strategy, South Korea's Taedok 'Science City', Taiwan's Hsinchu 'Technology Park', Japan's 'Technopolis' Programme, Hong Kong's 'Cyberport' and Malaysia's 'Multimedia Super Corridor'.

The growth of technopoles in the region was a process that Jessop and Sum (2000) labelled the 'Siliconisation of Asia' whereby a number of entrepreneurial developmental states imagined a shift from export-oriented manufacturing economies to ICT based service economies which would enable them to 'leapfrog' up the next round of economic development. Prior to the Asian Financial Crisis 1997-1998, the logic of I.T. facilitated 'developmental catch up' (Burkett and Hart Landsberg 2003) seemed entirely logical when the runaway success of Asian 'tigers' and 'dragons' emboldened regional claims of economic supremacy (Yeoh 2005). Technopole developments were very much in keeping with urban

transformations at the time geared towards the spectacularisation of national landscapes through a series of 'urban mega-projects' (Olds 2001) and the reimagining of 'the [once] mystical, sleepy (post-)colonial Orient, as, at once, a new threat to Euro-American supremacy and a new paradise of economic opportunity' (Bunnell 2004: 4-5).

Technopole planning practices attempted to raise 'global visibility' (Bunnell et al. 2002) and redefine national competitive advantage through two interrelated strategies. Firstly, growing inter-urban competition between technopole projects to attract global capital, internationally mobile investors and high quality human talent led to the mobilisation of a range of entrepreneurial place marketing strategies. This became increasingly evident as Southeast Asian economies were integrated into regional and global circuits, and rose to prominence in the mid-1990s, national governments realised the potential of technopoles for symbolically repositioning the state as a site for economic investment. Each project was promoted around the world through various conferences, official tours, and publicity events as Asia's "new Silicon Valley". Subsequently technopoles were heralded as harbingers of a new high-tech modernity, and positioned as 'world-class' state-spaces for technological innovation and globalised live/work practices.

Secondly, states in the region materially reoriented technopole developments within their national territories as global sites for attracting foreign direct investment. Technopole planning strategies spawned a range of 'spatial products' (Easterling 2005) - intelligent cities, technology and science parks, new media districts - creating 'exclusive' technologised spaces which would provide a suitable environment for multinational I.T. companies and the nurturing of a new generation of would-be 'intelligent' citizens (Mahathir 1998). As well as providing the usual array of financial incentives, technopoles created new 'splintered' (Graham and Marvin 2001) governance spaces which combined re-scaled state authoritarianism with

neoliberal strategies for economic growth (e.g. deregulation, liberalisation). As a consequence, these states 'rescripted' national development through globalisation processes encompassing transnational networks, connections and affinities that unsettled bounded constructions of the state and created new 'splintered' urban spaces (Graham and Marvin 2001), or 'neoliberal calculations' (Ong 2007) that overlap, but do not coincide, with the national terrain. Concomitantly, these countries have regulated, to differing degrees, their opening to a 'global', *read* Western, space with what were seen as potential threats to cultural integrity and economic control (Ong 2000a).

1.3. Foregrounding Malaysia and the Multimedia Super Corridor

The empirical focus of the thesis is on one of the most ambitious technopole development projects in Southeast Asia; the Multimedia Super Corridor (MSC). No country more than Malaysia in the 1990s was seduced by a belief in the unlimited power, boundless mobility, and transformative socioeconomic potential ICTs could offer. Conceived by the state as 'more than just a technology park', the MSC was launched by the Malaysian Prime Minister Dr. Mahathir Mohamad on the 1st of August 1996 as a special zone for the growth of I.T. and multimedia industries that were seen to embody the power of a 'new economy'. Moreover, the creation of a proposed 'innovative hub' was to enable the country to 'leapfrog' up the development chain and promote Malaysia as an investible location for global capitalism.

One of the world's largest ever planned urban development projects, the corridor stretched 15 kilometres wide and 50 kilometres long linking Kuala Lumpur City Centre (KLCC) in the north to Kuala Lumpur International Airport (KLIA) in the south in a proposed high-tech zone that would bind Malaysia and its citizens into the global 'information society'.[2] Built on a rationale of 'intelligent living', the MSC has attempted to integrate ICTs into every aspect of its urban environment through a series of flagship

[2] Though as Chapter 4 notes, the notion of MSC as a bounded spatial milieu is contested.

applications (e.g. e-government, smart schools, smart homes) technologically determined to 'upgrade' Malaysian human capital and enable the country to become a global hub for I.T.. The MSC stands out amongst its regional competitors because the Malaysian government did not conceive of the technopole ideal merely as a physical hub for I.T. industries but it was understood more broadly as the goal to create an ideal utopian society; achievable through technological means. This 'high-tech strand of developmental utopianism' (Bunnell 2002a) followed three stages (Figure 1).

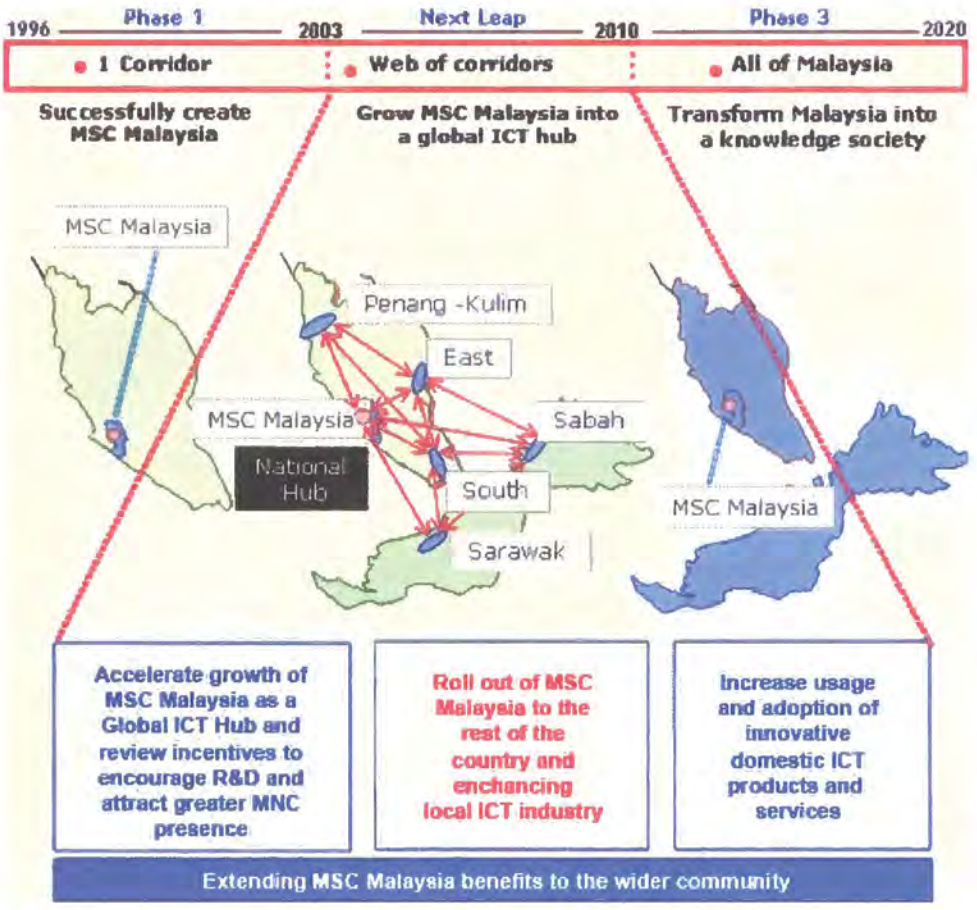

Figure 1: MSC Development Phases (Source: MDEC)

Located 40 kilometres south of Kuala Lumpur, Cyberjaya was the MSC's flagship 'intelligent city' technopole and the focus for fieldwork. Firstly, the city was the planned centre for Malaysia's high-tech industry. A 'Bill of

Guarantees' was offered by the government to entice companies to relocate to Cyberjaya which included tax breaks, freedom to source foreign labour and capital, and no internet censorship. In return, the government expected that companies awarded 'MSC status' and allowed to locate in Cyberjaya would be research intensive and would transfer skills and technologies to local companies. All this would take place in an exclusive garden city locale that was to "hot-house" a culture of innovation and creativity. Secondly, Cyberjaya was planned as a 'wired' city and constructed with a specialist 100% digital fibre optic backbone (5-10 Gigabits per second) and promoted as a national 'test bed' for the integration of ICTs into everyday life. A series of 'Flagship Applications' (Figure 2) were intended to facilitate 'intelligent' live/work practices and position the city as an 'exemplary' urban space for a globally orientated, Malaysian 'information society'. In turn, the MSC was frequently referred to by Mahathir as Malaysia's 'gift to the world' and envisioned as an experimental site for technopole planning practices.

Flagship Application	Objective
1. National Multipurpose Smart Card	Multipurpose identity card also enabling electronic commerce in MSC.
2. Electronic Government	Paperless e-government in Putrajaya enabled through multimedia technologies.
3. Worldwide Manufacturing Webs	MSC to function as regional hub for networks of R&D, manufacturing and distribution.
4. Borderless Marketing Centre	Multimedia Development Corporation as one-stop-shop for prospective MSC companies worldwide.
5. Smart Homes/Schools	ICTs to manage home environment and multimedia technologies as central to education.
6. Telemedicine	Remote consultation, diagnosis and treatment in Malaysia's healthcare system.
7. Research and Design Cluster	Cyberjaya the planned locale for the synergy between global multimedia companies and

	multimedia university.

Figure 2: Summary of the MSC's Seven Flagship Applications

These utopian development plans, in-tandem with the MSC's global marketing campaign, promoted the project as a neoliberal economic space for high-technology industries and multinational research and development communities. However, beneath the hyperbolic sloganeering, the MSC is far from a politically neutral global space operating in a vacuum detached from its national context. In particular, racial politics permeates the "MSC story" just as it does in other discursive and material spaces elsewhere in Malaysia. Contested notions of racial identity and divisive race relations can be traced to the colonial period and the intervention of the British in the Malay archipelago (Harper 1999; Abraham 2004) in the eighteenth century. Critical historians observe how the linkage of race with socio-economic function in the British colonial economy still resonates in Malaysian society today with the Malays functioning as the political elite, Chinese as a capitalist class and Indians as agrarian labour. The thesis endeavours not to rehearse well-trodden debates amongst Malaysianists concerning the role of race and religion in the production of a socially and spatially diverse nation state since independence in 1957. Rather the thesis engages with, and is analytically sensitive to, the complex and often divisive racial politics that has characterised Malaysia's contested geographies of nation building in the context of the MSC's development. While empirical material interrogates racial identity across multiple MSC field sites (Chapters 4-8) the objective of the thesis is not to provide a comprehensive account of Malaysia's racial politics through the MSC.

Elsewhere, the cultural geographer Tim Bunnell has written at length about the planning and development of the MSC in relation to Malaysia's complex racialised politics. Despite the promotion of the MSC as an ethnically and territorially integrated space, Bunnell highlights how the project represented a reordering of Malaysian society for a new 'intelligent' phase of national

development that was bifurcated along racial lines according to who was included and excluded from the project. Bunnell, who conducted his doctoral fieldwork in 1996 prior to the majority of the MSC being built, exposed two early myths concerning the Malaysian state's utopian high-tech developmentalism. Firstly, he observed that despite Mahathir's claims of universal national benefit, the majority of MSC construction projects were allocated to individuals or Malay companies directly linked to the ruling government United Malay National Organisation (UMNO) Party. In this light, the MSC was cast as a site for the pursuit of Malay interests and for the realisation of a new kind of technologically savvy Malay subject in keeping with Mahathir's ethno-nationalistic economic policies. Second, Bunnell's main empirical enquiry addressed the evictions and subsequent relocations of plantation workers and indigenous groups from land allocated for MSC development prior to 1997. Research highlighted the case of the mainly Indian-Tamil Perang Besar plantation estate workers who were deliberately excluded and physically removed from lands allocated to MSC development. Both within and outside MSC territory individuals and groups were positioned according to 'their ability to realise themselves in "intelligent ways" through a number of social and spatial dividing practices at a variety of scales' (Bunnell 2004: 7). Bunnell describes these socio-spatial divisions as the 'moral geography' of the MSC landscape and observes how these processes have historical resonances with old colonial divisions of labour and space combined with new bio-political regimes of state authoritarianism (see Ong 2000a).

The empirical enquiry is sensitive to Malaysia's racial politics and the geographies of exclusion that characterised the MSC's development. The thesis seeks to bring the "MSC story" up to date with research conducted ten years after Bunnell's preliminary fieldwork. The objective of the study is to map the MSC's utopian development plans against a more grounded assessment of the material and symbolic consequences of technopole

planning practices in Cyberjaya. Specifically, the thesis seeks to highlight a range of disjunctures evident in the planning of Cyberjaya as a space for asserting 'intelligent' national development through a 'deterritorialised' mode of neoliberal economic globalisation. For all its purported uniqueness, the MSC mimicked existing technopole exemplars (notably Silicon Valley) and was directly influenced by the global diffusion of consultants, real estate interests and multinational corporations (MNCs) who imagined the production of 'intelligent' urban spaces as essential ingredients for global economic success (Graham and Marvin 1999). More than ten years after its initial launch the thesis engages with the transnational processes by which a unique form of high-tech utopianism was inscribed on the Malaysian landscape through the MSC mega-project and promotes analytical sensitivity to the experiences of people who now inhabit these high-tech spaces.

1.4. Research Aims and Questions

While there has been a large amount of academic and policy research on technology parks, science cities, 'intelligent' corridors they have only provided a partial understanding of these dramatic and costly processes of urban restructuring (Rogers and Laursen 1984; Castells and Hall 1994; Saxenian 1994; Indergaard 2004; Roper and Grimes 2005; Searle and Pritchard 2005). There has been a shortage of critical, empirically informed research to address: (a) the politically infused, symbolic role of ICTs in technopole place marketing; (b) the compatibility of (neoliberal) technopole urbanism vis-à-vis broader national development goals; (c) the critical intersections between power, networked infrastructures and their implications for everyday life. Beyond the significant contribution of Bunnell (2002a; 2002b; 2003; 2004) work on the MSC has been at best descriptive if not specifically promotional in nature (Ibrahim and Goh 1998; Mazelan 1999). In this light, the thesis is informed by three main aims:

- To respond to a paradigm challenge within urban geography over how to conceptualise the relationship between technology, society, and urban form. The thesis provides a conceptual critique of technologically deterministic technopole planning practices by focusing on their urban material consequences in a specific place at a specific time.

- To illuminate emerging spaces of neoliberal modernity in Southeast Asia through a case study of the MSC mega-project. The thesis engages with 'information society' and 'new economy' discourses and addresses the political-symbolic work these discourses enact in promoting privatised 'high-tech' enclaves within national spaces.

- To promote an analytical sensitivity to the locality in which technopole planning practices are mobilised in order to critically unpack their everyday geographies and uneven socio-spatial effects. Consequently, the project seeks to highlight counter-hegemonic narratives produced by individuals who live and work in Cyberjaya.

The thesis seeks to examine four main research questions through qualitative methodologies. Each question is divided into a series of sub-questions which guides the critical enquiry.

Question 1: What is the nature of the Malaysian 'information society'?

Sub-questions

- What is the MSC and what are its critical constituents?
- Why did a unique form of high-tech developmentalism manifest itself in Malaysia in the mid-1990s?
- Who are the main 'ideological agents', and how did they discursively frame the MSC across different scales?

Question 2: How are the discursive architectures of the 'information society' inscribed on the Malaysian landscape?

Sub-questions

- What is the 'intelligent city' and its critical components?
- How is the 'information society' (re)constructed at the urban scale through technopole planning practices in Cyberjaya?
- How is Cyberjaya mobilised through transnational planning strategies?

Question 3: To what extent does Cyberjaya's discursive framing map onto its existing everyday geographies?

Sub-questions

- What are the disjunctures between Cyberjaya's symbolic positioning as 'intelligent city' and its material consequences?
- What socio-spatial dividing practices are evident in Cyberjaya, and what are their urban 'splintering' effects?

Question 4: How is everyday life technologically mediated in Cyberjaya?

Sub-questions

- What is the nature of the lived experience in Cyberjaya?
- What are the textures of everyday ICT usage in Cyberjaya?
- How do technologies mediate online and offline spatialities in Cyberjaya?

1.5. Structure of the Thesis

The thesis addresses the research questions in the following chapters.

Chapter 2 is the methodology chapter which outlines a practical framework for how the empirical research was conducted. The chapter is written in two parts. The first part outlines the research strategy discussing the case study approach and issues of positionality, reflexivity and generalisability. The second part introduces and evaluates the main research methodologies of discourse analysis, in-depth interviews and participant observation.

Chapter 3 introduces the conceptual framework and provides a critical overview of relevant theoretical literatures as they relate to the thesis. The first part contextualises the MSC in terms of the discursive architectures of the 'information society' and 'new economy'. The second part illuminates the main spatial concepts of 'deterritorialisation/reterritorialisation' and 'sticky places/slippery space' which inform the theoretical argument of the thesis. The third part discusses technopole planning practices. The fourth section provides a critique of technological determinism. The final section promotes an analytical sensitivity to the places in which these processes are embedded to allow counter-hegemonic narratives to emerge in the field.

Chapter 4 is the first of four empirical chapters and addresses *research question 1* to interrogate the nature of the Malaysian 'information society' and its critical constituents. The chapter provides an extended geo-historical framing of how the discursive architectures of the MSC have been constructed, by whom and to what effects. The chapter dissects how the MSC has been produced as an *ideological-textual* space for (re)imagining the nation and its citizens in a putative 'information society'. The chapter identifies the main 'ideological agents' responsible for constructing MSC futurology and examines how these discourse have been inscribed across national, regional and global scales. The latter half of the chapter contrasts this discursive mobilisation with the everyday workings of the MSC through a walking tour of the physical 'urban corridor'.

Chapter 5 examines *research question 2* concerning how the discursive architectures discussed in Chapter 4 have been inscribed on the landscape through technopole planning practices. The chapter examines how Cyberjaya has been planned as both technological utopia and garden city to produce intelligent forms of living and being in Malaysia. The chapter argues that the city has been mobilised through modernist transnational planning practices and envisaged as a 'global exemplar' for technopole development. The chapter observes that despite the rhetoric of producing a national 'test bed' for 'intelligent-led' development, the project can be reappraised as an exclusive urban enclave.

Chapter 6 addresses *research question 3* and highlights the disjuncture between the discursive framing of Cyberjaya and its everyday geographies. The chapter questions Cyberjaya's development plans to produce a new 'innovative milieu' by replicating the Silicon Valley 'model' to create a global I.T. hub. In the first half, the chapter outlines how Cyberjaya is place promoted and discursively framed as a 'sticky place' where local skills, infrastructure and capital attracts I.T. companies and research and development activities. The second half highlights the disjuncture between this urban boosterism and the prosaic reality of Cyberjaya as 'slippery space' characterised by the presence of low value-added, disconnected, back-office activities.

Chapter 7 addresses *research question 4* by examining how everyday life in Cyberjaya is technologically mediated. In the first part, the chapter examines technologically mediated everyday work practices in the back-offices of Cyberjaya's multinational corporations. In the second part, the chapter draws upon in-depth interviews with smart home residents to examine everyday encounters with technology in the home. Through the critical lens of the everyday the chapter brings to the fore the practices of globalisation as they are experienced, and socially produced, in specific places, at specific times.

Chapter 8 concludes the thesis with a summary of the main arguments from the thesis and draws out the wider academic and policy implications from the empirical findings.

Chapter 2. Methodology

2.1. Introduction

The chapter adopts an 'auto-ethnographic' approach in outlining the research strategy and methodological context for the thesis. It is written in two parts: the first part outlines the research strategy and the second part introduces and discusses the main methodologies. The thesis employs an ethnographic approach to the case study of Cyberjaya examining both social practices ("what people do") and social discourses ("what people say"). Social practices are examined through broadly ethnographic research methodologies including participant observation, fieldwork diaries, 'time-space diaries' (Zimmerman and Wieder 1977; Latham 2003), and 'go-along interviews' (Kusenbach 2003). Discourse analysis and in-depth interviewing will examine the latter, attending to how the project is symbolically framed through the discursive practices of the project's main ideological 'architects' and subsequently understood by the 'users' living and working in Cyberjaya. The political and ethical implications involved in mobilising these methodologies are also explored in the chapter.

The thesis is informed by a 'reflexive turn' (Emerson 2001) in geography which followed the 'crisis of representation'. Spurred by debates in post-structuralism, post-colonial, and feminist critiques, such developments have shaken authorial claims to truth and objectivity across the social sciences. This is summed up by Clifford (1986: 3) who asks 'how is unruly experience transformed into an authoritative written account?'. In turn, the research here is premised by the assumption there are *multiple* realities and therefore *multiple* truths. Drawing upon the intellectual traditions of critical theory, post-modernism, and post-structuralism I do not seek to 'capture reality' but to offer one interpretation of it which is 'partial', 'situated' (specific to the

research milieu), 'performative' (produced in, and through action) and relative (to the researcher's world-view and value system) (Haraway 1991).

Accompanying these recent shifts are claims that research practices have failed to keep pace with 'theoretical talk' (Latham 2003; Crang 2005). The thesis seeks to address this 'methodological timidity' (Thrift 2000) in human geography through innovative methods - time-space diaries, go-along interviews, and narrative style fieldwork diaries. The empirical enquiry responds to a critique from Thrift (2000: 3) regarding the narrow use of qualitative techniques fixated on the notion of 'bringing back data and representing IT (nicely packaged up with illustrative quotations) and the narrow range of sensate life they register'. The research therefore sought to innovate methodologically in order to make existing techniques 'dance a little' (Latham 2003).

The methodologies utilised in the project are qualitative in nature stemming from a humanistic critique in social science of scientific methods with its emphasis on 'objective' measurement of observable phenomena and their interrelations. Such methods are not wholly appropriate to social science research as people are 'purposeful agents whose own understandings of their actions in the world must be incorporated into, and even allowed to challenge, research accounts of them' (Whatmore 2003). This challenges the 'God trick' that presupposes an outside standpoint from which the researcher can neutrally read and narrate social reality (Herbert 2000). Within human geography the bodily presence of the researcher is now acknowledged (Crang 2002) and recent work has sought to emphasis their corporeal performances (Dewsbury and Naylor 2002; Nairn 2002; Routledge 2002). Following these developments, fieldwork can be re-defined as 'a discursive process in which the research encounter is structured by the researcher and the researched' (England 2001: 210). To claim this as 'pure knowledge' lapses into essentialism and denies the diversity of viewpoints

and experiences of other people in the research (Said 1978). Qualitative methodologies offer an embodied account sensitive to the co-production of power relations between the researcher, respondents and audiences.

2.2. Research Strategy

2.2.1. Case Study Design

A case study approach is chosen as the research strategy to examine a single project (MSC-Cyberjaya) and a single community (Cyberjaya's residents and workers) in a specific place and time.[3] Qualitative methods sit well with case study approaches where an intensive, detailed examination of a specific case is required utilising multiple data sources. According to Yin (1984), case studies have three characteristics: they investigate contemporary phenomena within their real life contexts; they use multiple sources of evidence; and they focus on events where the boundaries between the phenomena under study and the context are not clearly evident. As a result the case study approach constitutes an intensive form of qualitative research allowing the researcher to get closer to social phenomena that survey data can't reach.

> 'The distinctive need for case studies arises out of the desire to understand complex social phenomena... [and] allows an investigation to retain the holistic and meaningful characteristics of real life events.'
>
> (Yin 1984: 4)

The case study strategy is adopted for two main reasons. Firstly, Cyberjaya is chosen as a global exemplar and critical case to examine technopole planning practices more closely. The city was launched in 1996 as the

[3] As May (2001) argues, many of the best known studies in social science are case studies, allowing the researcher to gain insights into complex situations not possible via other types of research design. However, case studies have been critiqued for their lack of empirical rigour, their lack of generalisation, and the length of time taken to produce a case study.

flagship 'intelligent city' for the Malaysian state's MSC mega-project. The development was purpose-built to create an ideal environment for living and working with ICTs and promoted by the state to facilitate a transition to a 'new economy' and 'information society' in order to accelerate national development. The MSC project is chosen for analysis because it exemplifies the hyperbole, futurology, and urban boosterism that has characterised the discursive construction, and place promotion of technopole projects. Moreover, the marketing of MSC-Cyberjaya is bound up with the symbolic (re)construction of the entire nation and its citizens. The project brought about one of the largest urban development projects ever undertaken in Asia-Pacific with its plan to transform a 50 km by 15 km tract of plantation land into high-tech city.

Secondly, the MSC-Cyberjaya is approached as an analytical 'test bed' where certain debates are evident and specific research questions can be answered. Rather than seeking to prove or disprove a specific hypothesis, the research seeks to prompt new theorisations which can be generalisable in specific contexts. The single case study is justified because it seeks to examine sets of decisions (over a period of time) which shaped the conceptualisation and planning of Cyberjaya; it explores how such decisions were implemented; and with what material and symbolic consequences. The methodologies mobilised in this project sought to interrogate these consequences across multiple scales at a number of empirical sites from everyday geographies of the workplace and home to the promotional speeches given by former Prime Minister Mahathir since the project's launch. Fieldwork was conducted in two periods from May 2006 to December 2006 and October 2007 to December 2007. Prior to this secondary documentary analysis was conducted and a list of field contacts drawn up and contacted.

The case study design perhaps misrepresents the research process as a linear unproblematic process of theorising *followed by* data gathering *followed by* drawing clear conclusions; otherwise known as 'deductive theory'. This raises questions about ontology and assumes that reality is something that can be hypothesised, tested, and confirmed.[4] The field functions as a 'spatial imaginary' (Massey 2003); something which we try and grasp, and manipulate from our desks with the materials of the field laid out in front of us to make sense of. However, as my research experience suggests the field is always in motion and 'ceaselessly self-transforming' (Clark 2003: 38). The field is not a bounded space but in a state of becoming whereby 'doing research' is akin to a process of continuous experimentation. This involves following leads 'wherever they may take us' (Allen 2003) whereby new theorisations are induced from empirical data. Reading methodology text books would have the reader believe that the research process is orderly, where potentially any anomalies are accounted for and disaster always averted.

2.2.2. Practicing the Field

Doing overseas fieldwork is a central component of the geographical tradition, as evidenced in publications such as National Geographic. These contribute to ideals of 'romance' and 'exoticism' about the field. This was something that I had to contend with amongst my peers who were envious of my year long fieldwork stint in tropical Southeast Asia. However, in reality cross-cultural research presents many significant problems. This includes feelings of alienation that inevitably come from 'practicing the field' in a foreign setting. In addition, during overseas research the researcher enters a new cultural setting with different norms, sensibilities, and sensitivities compared to the 'home' country. When undertaking fieldwork overseas

[4] This is in direct contrast to work by Jacques Derrida, Gilles Deleuze and post-structuralist school which denies the existence of any objective reality as 'out there'. For them, all knowledge is partial, situated, and the world is never entirely unknowable.

researchers need to be sensitive to local attitudes and customs (Nash 2000). In Malaysia this required avoiding any discussions or interview questions on the topics of *race* and *religion*. These two "sensitive issues" were prohibited for discussion as a condition for receiving a research visa from the state.

Specifically, undertaking intercultural research overseas raises issues concerning reflexivity in theory and positionality in practice. These debates have become increasing important in human geography research, influenced by post-colonial and feminist theory (Pile 1991; Kobayashi 1994; Merrifield 1995; Rose 1997). Such conceptual moves examine the nature of the relationship between what one is researching, when one is researching and how one is researching it to illuminate the power relations in the places and spaces where research is carried out. I do not want to fall into a critique that 'divides positionality formulaically into being insiders (good but impossible) and outsiders (bad but inevitable)' (Crang 2003a: 296). As much work in recent human geography has shown such a binary opposition is untenable and not reflected by experiences of the field (Dowler 2001; Mohammad 2001; Valentine 2002). Despite the best intensions of reflexivity, the goal of establishing commonality between the researcher and researched therefore becomes a "mission impossible".[5] Nor do I want to revert to the 'facile delights of self-exploration' (Bourdieu 2003: 282) evident in overly auto-ethnographic narratives of the self. Moreover, I argue that research is bound up with numerous inescapable paradoxes and often unresolved ethical dilemmas that are unavoidable components of the research process. As Rose (1997) observes, while it is easy to talk about reflexivity, putting it into practice may be impossible to achieve, and is bound to 'end up in failure'. Therefore, I seek to embrace the critical politics of power/knowledge

[5] Crang (2003: 493) has critiqued claims of reflexivity reliant upon 'problematic notions of a stable, tightly defined, unchanging research project conducted by a singular researcher, with one stable essential identity, both between locations and over time, and suggests the latter is also true of the researched'.

production and develop an awareness of its implications in my own critical ethnographic work.

Detailed accounts on positionality and the politics of identity in relation to practicing the field have been undertaken elsewhere (Sparke 1996; Madge et al. 1997). Undertaking research as a white, British, male inevitability brought into play certain power relations. The project does not seek to speak for a marginal 'other'[6] but rather takes their voices seriously by promoting in-depth methodologies that make visible the often overlooked everyday geographies of high-tech urbanism in Malaysia. This is fraught with ethical and political dilemmas.

> 'Though fieldwork is often portrayed as the classic colonial encounter in which the fieldworker lords it over his/her respondents, the fact of the matter is that it doesn't usually feel much like that at all. More often it is a curious mixture of humiliations and intimidations mixed with moments of insight and even enjoyment as you begin to imagine the world you have chosen to try and inhabit.'
>
> (Thrift 2003: 106)

In this light, the generation of research materials 'is produced, not found, and (that) the activity of producing them is not all vested in the researcher' (Whatmore 2003: 90). Therefore, the research process can be conceived as a 'co-fabrication' process, working together with those whom we are researching. Such a 'position' produces a view of the world 'from specific locations, embodied and particular, and never innocent' (Rose 1997: 308).

In the light of these debates, the project is attentive to ethical research practices. Firstly, I strive to make visible the relationship between the researcher and the researched. Complicated and shifting power relationships were an inevitable component of the fieldwork process and

[6] Debates over voice and authority have been explored elsewhere (McDowell 1992; Kobayashi 1994).

worked both to my advantage and disadvantage in the field. I was often treated with suspicion by interviewees who were unsure of my presence in the research setting: "why did I choose Malaysia?" "Why Cyberjaya?" "What were the intentions of my research"? Doing fieldwork and being accredited by the state was sometimes a doubled-edged endorsement in the eyes of respondents because I was still an "outsider" both as an academic researcher and as a non-Malaysian. In these situations I felt relatively 'powerless' as a researcher.

In certain cases being an "outsider" made people more receptive to my position as a foreign researcher. Some interviewees greeted me with a warmth and openness I had not anticipated when starting out, inviting me into to their home, to eat with their families and offering to assist in any way possible. Whether driven by genuine warmth or the exoticism of a new cultural encounter, people in 'everyday settings' were open to cooperation. Once participants overcame initial scepticism, or suspicion, I found people to be of great help and I left the field with many new, unexpected friendships. However, there was still a great distance between myself and my participants by virtue of the material or analytical power of the researcher (Moss 1995). There are no guarantees that cultural commonality would have made access easier, or created a power neutral relationship.

Secondly, I received informed consent from all participants involved in the project. I informed participants as fully as possible about the implications for participating in the research. I guaranteed to treat their information as confidential and offer anonymity in the research process. I have also tried to avoid privileging Anglo-American theorisations in the 'non-Western' context of Malaysia. Ethno-centrism is associated with incompleteness, oversimplification, a lack of historical understanding, or suppression and/or exaggeration in explanation (Williams 1986). Through extensive literature reviews and immersion in the research setting for a period of 15months I feel

that I have developed a detailed, though by no means complete, understanding of Malaysian culture, society and history. This time served to break down any binary modes of thought which may have positioned an imagined 'exotic' away versus 'home'. This is not to suggest that I have erased any trace of ethno-centricity, but these factors may have reduced the damage of any 'crude ethno-centrism' (Pickvance and Preteceille 1991).

In terms of *representation*, I am required to send copies of my thesis to the Malaysian government to satisfy the conditions of the research visa. Findings will also be circulated to those who requested feedback during empirical work (e.g. companies, other government ministries, personal contacts). Such 'interpretive communities' will produce multiple readings of the material (Pryke 2003).

2.3. Participant Observation

Participant observation is one of a number methods in the project constitutive of an ethnographic approach to the research setting. Following from Appadurai (1996: 191-196): 'the task of ethnography now becomes the unravelling of a conundrum: what is the nature of locality, as a lived experience, in a globalised, deterritorialised world?' Such a conundrum can only be examined through critical focus on, and prolonged engagement in the everyday milieu. As Latham (2003) argues, everyday life and cultures are two of the 'great frontiers' for contemporary human geography for unpacking 'tissues of relationships and events' as they unfold in the research setting . These local cultures cannot be 'ring-fenced' from broader political, social economic processes because the global is not 'out there' but instead always 'in here' - in the everyday. The value in shifting focus to examine these taken for granted life worlds is discussed by Taussig (1991: 148) who notes:

> 'Quite apart from its open invitation to entertain a delicious anarchy, exposing principles no less than dogma to the white heat of daily practicality and contradiction, there is plurality in everydayness. My everyday has a certain routine, doubtless, but is also touched by a deal of unexpectedness, which is what many of us like to think of as essential to life, a metaphysics of life, itself.'

Work done by Thrift (1997; 1999; 2000) in human geography has been pioneering in recognising the importance in everyday practices that shape human beings in specific sites. Thrift has highlighted human geography's current unease with work on the everyday due to its obsession with representation and a lack of critical focus on how power works through the everyday. In numerous publications he has argued: (1) time-space is fundamental to human life; (2) time-space comes into being through social practice; (3) these practices generate subjectivities through which the world is lived and experienced; (4) that subjectivities are the products of complex mixtures of human and non-human agencies. Following these critical theorisations the participant observation technique seeks to examine everyday practices and human geographies in emerging spaces of globalisation and urban transformation in Malaysia.

Participant observation is a research practice that attempts to "get at" the "everyday-ness" of experience. It is one of the most accessible, yet under utilised research methodologies. According to Cook and Crang (1995: 4): 'the basic purpose in using these methods is to understand parts of the world as they are experienced and understood in the everyday lives of people who actually act them out'. The origins of participant observation can be found in three traditions: anthropology (Malinowski 1922; Evans-Pritchard 1937); the Chicago School of sociology (Park et al. 1925); and humanist geography (Tuan 1974; Buttimer 1979; Seamon 1979). The basic premise for such a method is that long-term engagement with the field is required in order to gain rich and complex understandings. However, while the ethical and

political implications of the method are well debated (Katz 1992; Denzin 1997) there exists no clear 'practical handbook'. As a result, early ethnographer's were encouraged to 'fly on their own' (Hughes 1980) or simply 'play it by ear' (Evans-Pritchard 1937).

Participant observation is a processual methodology which comes into being through research as it is practiced (Laurier 2003). Research questions are seen to arise out of the phenomena and setting which the researcher is investigating. Therefore the methodology relies on participation, living in the world alongside those who you are seeking to research. It was for this reason that I spent a year in the research setting where I was observing, participating, and documenting everyday life with the residents and workers in Cyberjaya on a daily basis. Lengthy periods of participant observation were combined with frantic note taking session as and when possible.

In the early period of fieldwork a large amount of my time was spent endlessly strolling around Cyberjaya, and then intermittently pausing to for observation sessions at fieldwork sites. This was true especially in my initial weeks of fieldwork when I was keen to make new contacts and survey Cyberjaya on foot. This research practice seemed to amuse local residents who couldn't understand why I would voluntarily walk around in the daily heat and humidity of a tropical climate. Consequently, at the end of the day during fieldwork I was often left feeling physically exhausted not by virtue of the amount of miles I had walked but more due to the climatic extremity.

The goal of participant observation was not to gain complete coverage of a delimited space, but rather to understand better of the ways in which people interpret the world and organize their lives. My role as a researcher was to participate in people's daily lives for an extended period of time, watching what happens, listening to what is said, asking questions and: 'collecting whatever data are available to throw light on the issues that are the focus of

the research' (Hammersley and Atkinson 1995: 1). In doing so I constantly asked myself a series of questions: "what is happening?" "When is it happening?" "Where is it happening?" "Who is (and is not) engaging in what kind of activities?" "How are people responding to what is happening?" Such prompts were concerned with not what is represented, but instead what is done in the research setting. Walking practices took me into the corporate campuses of MSC companies, into gated communities (upon showing the guard my research pass), along streets, and into parks.

Alongside walking practices I focused on several key sites for participant observation practices which would bring me into contact with a diverse range of people. As I explore in the following section, some of these contacts participated in semi-structured interviews to provide more detailed transcripts of their experiences. Firstly, my main ethnographic site was the *Cyberia* smart home complex. This was where I recruited and observed a large number of Cyberjaya residents and workers[7]. Secondly, I spent a great deal of time at Cyberjaya's 'Street Mall' shopping complex. This was the main commercial and transport hub and contained a number of restaurants and cafes. Street Mall was frequented mostly by local residents, but also by staff of Cyberjaya companies during lunch times, and evenings during breaks in the night shift. It was therefore a conducive milieu for listening to and observing people. Thirdly, I had planned to undertake a large amount of observational analysis at Cyberjaya's city command centre (CCC), which was billed in the promotional materials as Cyberjaya's 'interactive community hub'. However, on my first visit to the CCC I soon realised the building was virtually empty, and few residents used its facilities (Chapter 5).

As Junker (1960) has outlined, there are multiple roles the researcher can adopt during participant observation. Upon visiting these research sites my

[7] The street mall contained 4 restaurants, 2 cafes and numerous other shops and small businesses. It was an open plan shopping area therefore a research site to which access did not have to be negotiated.

role shifted according to the situation and circumstance of the research setting. While observing staff in the offices of MNCs I was a *complete observer* avoiding interaction with participants in order to observe everyday work practices in Cyberjaya. Observation was prioritised as a means for documenting these practices as they occurred 'naturally' without the interference of a researcher constantly asking questions. At other times I was an *observant participant* actively engaged in social interaction with participants in social settings (e.g. the local café, or park) in Cyberjaya. Whatever the role, I was always an active player in the research setting, therefore affecting the dynamic of the setting. As I was attempting to understand the research setting through the eyes of the participants being *covert* allowed for more naturalised conversations and observations to occur albeit raising the usual ethical dilemmas. I didn't feel a constant need to tell people in casual conversations, or during chance encounters who I was, and what my purpose was. If the researcher-participant relationship developed further then I outlined the nature of my research, and this would have led to arrangements for a more formalised interview. In general, I was completely open about my research role where formal research was conducted. I explained the nature of the project to participants fully.

In participant observation I was the primary tool for collecting data. I kept a field diary during the fieldwork period to note down observations and reflect upon experiences. Keeping a diary was an invaluable tool as participant observation led to chance encounters and 'go-along interviews' which were unplanned, informal, and therefore unrecorded. Furthermore, it allowed me to narrate my experience of the field through my embodied experience of place in Cyberjaya. At the end of a day in the field, getting back 'home' to write in my diary was a reflexive, enjoyable, but also a subjective process. Ethnographic style writing is 'in part, an act of betrayal, it is the very nature of representation that misrepresentation occurs' (Keith 1992: 554). Therefore, extracts from my field diary are not attempts to represent the 'other' to a

specific audience but are fleeting snapshots of Cyberjaya, as I experienced and observed it.

Allied to traditional ethnographic methods I embraced new research practices with varying degrees of success. These methodologies were to examine how informants conducted their activities in a naturalised environment.[8] Methodological innovation stems from a frustration with traditional participant observation techniques that rely on specific insider knowledge and access in order to gain a 'complete' understanding of the research setting. This was virtually impossible achieve in Cyberjaya where my status as an outsider was continually problematic.

Firstly, influenced by U.S. anthropologists Zimmerman and Wieder (1977) and Latham's (2003) 'diary interview, diary photograph' method, I invited participants to undertake 'time-space diaries'. The method reworks traditional methodologies (the interview, the field diary, mappings) to create a 'methodological hybrid' that emphasise everyday performance and practices. I invited interviewees to undertake participant 'time-space' diaries to convey a sense of how places were actually practiced. Diaries focused specifically on daily patterns of ICT usage paying attention to: who is connecting to whom? Via what media? And what information is being exchanged? Such questions sought to examine how ICTs affect the organisation of social relationships across time and space, and also attending to the role of technology in everyday action and practice. I asked participants to conduct a diary of their ICT usage during the week, within and outside the home. I received a total of 6 diaries, mainly from students who had the time to conduct diaries for the research project. Despite such limitations the diary data did provide valuable material on the daily textures

[8] As Kusenbach (2003) argues, one of the problems with the interview and participant observation method is that people do not comment on 'what is going on' while acting in natural settings. In both cases parts of the lived experience remain invisible, or, if noticed, unintelligible.

of ICT usage in Cyberia.[9] The diaries were discussed in informal, unrecorded interviews with participants.

Secondly, I conducted a series of 'go-along interviews' (Kusenbach 2003) with participants. During 'go-alongs' I accompanied participants on their 'natural' outings in Cyberjaya. By asking questions, listening and observing I explored the subject's stream of experiences and practices as they moved through the city, interacting with its physical and social environment[10]. The usefulness of the technique was that I could observe my informant's spatial practices *in situ* while accessing their experiences and interpretations at the same time. As Kusenbach (2003) argues, the method can bring the research closer to spatial practices, everyday perception, biographies, social architectures and social realms. The method has origins in the phenomenological tradition of experience (Tuan 1974; Relph 1976; Seamon 1979). It is a hybrid of interviewing and participant observation techniques but offers a more outcome orientated version of "hanging out" with key informants. This method - combined with unstructured interviews - allowed for qualitative depth as participants talked about subjects within their own frames of reference.

I tried not to direct conversations with participants, but when obvious features of the landscape came into view I would ask the participant to comment. My 'go-alongs' mostly occurred on foot with participants around Cyberjaya and lasted from a few minutes to approximately one hour. I conducted go-alongs with participants in a number of settings in Cyberjaya including the Multimedia University, Cyberjaya Nature Park, Cyberia Smart

[9] Though such diaries can be conceived as a form of performance in themselves, embodying the personal view of the diarist with his/her own unique frames of reference. The entries are not a definitive account but rather offer a range of snapshots and vignettes of a particular social space in the making. Therefore, it is important to be sensitive to the partiality of these accounts.

[10] Like participant observation and interviews the experiences are not 'natural' in the complete sense, and are still highly contrived. The presence of the research will undoubtedly unsettle the nature of everyday experience. However, 'go-alongs' do offer a better chance for uncovering aspects of individual experience hidden during an interview session for example.

Homes, and the Street Mall. Go-alongs were not recorded, though I did make notes during the activity where possible, and soon after completion of the activity.

To analyse my participant observation data I 'collated' all the primary materials from the ethnographic methods including my field diary, participant's time-space diaries, and photographs. I coded the diary material for specific themes that came to prominence in conjunction with photographic analysis of key field sites. Rather than mapping data against my pre-existing theories new meaning emerged through data analysis. This inevitably led to re-theorising, pulling apart plans and putting them back together again to make sense of the piles of transcripts, two field diaries, and several gigabytes worth of digital photography. This stage of the research process attended to data critically to decontextualise and recontextualise parts of it in order to recognise new themes, or observations (Cook and Crang 2007). Unlike the accounts written in numerous methodology textbooks I have read, this process was messy, changing through each round of analysis, and highly fraught.

2.4. Semi-Structured Interviews

> 'A semi-structured interview is a verbal exchange where one person, the interviewer, attempts to elicit information from another person by asking questions. Although the interviewer prepares a list of predetermined questions, semi-structured interviews unfold in a conversational manner offering participants the chance to explore issues they feel are important.'
>
> (Longhurst 2003: 117)

At its most basic form, an interview is a series of straightforward questions and answers (Silverman 1985). As a highly accessible technique it has become staple in the methodological diet of qualitative research. As Brenner

et al (1985: 7) note: 'if you want to know something about people's activities, the best way finding out is to ask them through the activity of everyday talk'. Although its value lies in allowing for open responses and scope for discussion, critics have pointed out the researcher bias, subjectivity, and lack of reliability inherent in the method. However, its popularity reflects the importance attached to 'intensive methods' within human geography in recent years (Eyles 1988; Pile 1991; McDowell 1992).

Rather than follow a rigid question/answer sequence where 'the other party speaks, and properly offers an answer to the question and says no more than that' (Sacks 1992: 230) I conducted semi-structured interviews. In this format I devised a set of predetermined questions or topics (normally around 8-10 for a one hour interview) which were to provide the basis for discussion with research participants. Often the order or depth in which topics were addressed depended upon feedback from the respondent and the flow of the discussion. This technique enabled me to probe and gain a richer understanding as more naturalised forms of conversation could take place. Although participants were clear that they were being interviewed, and informed consent was given, the structure of talk was more conversational style. The aim of such a technique, following the phenomenological tradition, was '*not* to be representative but to understand how individuals experience and make sense of their own lives' (Valentine 2001: 111). However, interviews do not create a 'truth' or an external reality but rather an 'internal reality constructed as both parties contrive to produce the appearances of a recognisable interview' (Silverman 1985: 165).

Getting people to participate is the most crucial dimension to the success or failure of any case study. Such persons not only provide the case study investigator with insights into an issue but can also suggest sources of corroborative evidence. In conducting interviews I acknowledge participants may have felt comfortable or uncomfortable depending on a whole range of

factors relating to how questions were framed, use of recording devices, their identity, my positionality, and the place where the interview was conducted. These factors inevitably affected the nature of the interviewer/interviewee relationship and data collected. Despite reconstructing my own identity during the research process to appear more 'professional' - smart clothes, hair cut, clean shaven - I have no evidence that such strategies put interviewees at ease, or made them more anxious.

In general interviews were taped with consent from the participant. This had the advantage of providing me with a verbatim transcript for the interview, and was therefore much easier to code and analyse, reducing the potential for misquotes. However, the downside was that some interviewees were less forthcoming in the presence of my digital dictaphone. Once the tape recorder was switched off at then end of interviews the body language of participants visibly altered. "Off the record" participants were keen to engage in more casual topic-related conversations. A large amount of valuable information was divulged in these discussions which enabled me to get much closer to the participants, and build up relationships of trust with interviewees.[11]

Interviews were conducted in either English or Bahasa Malaysia. Prior to fieldwork I spent six months in Malaysia learning Bahasa Malaysia as preparation. At the end of this period, though not fluent, I was more than conversational, and confident that interviews could be carried out in the 'native language' if required. However, the majority of interviews were conducted in English due to several reasons: the majority of business elites used English by default as their working language; for Chinese and Indian Malaysians the Malay language is highly politicised and is not considered their 'mother tongue' (Cantonese and Tamil are); lastly, English is considered a politically neutral language (colonial history aside) by locals

[11] Details from these exchanges were noted in my field diary directly after the event.

and foreigners[12]. I conducted interviews in Malay where interviewees preferred to use Bahasa Malaysia, though interviews were invariably recorded in *Bahasa Campur* (mixed language) of Malay and English.[13] Perhaps more importantly, Malay proved to be invaluable for navigating the field sites, and making informal conversations with taxi drivers, bus drivers, security guards, restaurant staff who were integral to the day-to-day rhythms and routines of Cyberjaya but poorly versed in English. Interviews in Malay were later transcribed into English.[14]

Lastly, transcription was the process whereby speech became material data, albeit partial, and slightly inadequate (Laurier 1998).[15] Transcription was a 'research activity' in itself as I engaged in close and repeated listening to recordings which often revealed previously un-noted recurring features relating to the organisation of talk. Transcripts include not only spoken words but also features of talk such as utterances, pauses, and non-verbal signals. Transcripts construct a certain version of talk which is partly guided by the researcher's questioning. This does not mean that the transcript is in some way misleading or false, but simply that it is not objective. Once interviews were transcribed they were coded to classify data into categories using the software application *Hyper-research*. This enabled me to highlight and mark up sections of the transcript which related to the main thematic concerns of each research question.

[12] It is a language which no single ethnicity can claim ownership of, therefore, it can be considered to be a pluralistic and inclusive language. However, in general English is poorly spoken in Malaysia especially beyond Kuala Lumpur in more rural areas. Although, I found that a large number of political and business elites were English-educated in foreign universities in the UK, USA, and Australia.
[13] This is common in Malaysia due to its multicultural and multilingual composition for people to be well versed in several languages. Therefore, participants would often mix their Malay with English as a matter of habit, or to impress people in conversation where knowledge of English is seen to be emblematic of higher education or social status.
[14] This is problematic in itself as meanings can be lost or invented.
[15] In his paper on 'Geographies of talk' Laurier (1998) called for more attention to turn-taking and dialogue, as opposed to focusing just on the answers to questions in interviews.

I targeted two categories of informants: firstly, residents and workers in Cyberjaya; secondly, political and business elites influential in framing the discursive architectures of the project.

2.4.1. Resident Interviews

The first group of individuals I interviewed were the everyday 'users' of Cyberjaya including residents and workers. These interviews focused on how individuals made sense of Cyberjaya and paid attention to their everyday practices, routines. Often residents were interviewed several times during fieldwork period to gain a deeper understanding of the taken for granted aspects of the participant's everyday life and knowledge.

Firstly, I conducted in-depth interviews with residents I recruited from the Cyberia 'smart home' complex within Cyberjaya. This location was chosen due to its position *as* Cyberjaya's 'flagship' smart home development. It was also conceptualised as one of the main 'wired' sites in Cyberjaya in the original project outline (together with the Multimedia University and the CCC). Furthermore, the management of the complex were fully cooperative with the study and gave numerous interviews about Cyberia and were happy to allow me access to undertake resident interviews and participant observation within the perimeter. This was crucial as Cyberia is a 'gated community' style development where access is restricted by a security barrier on entry, and security guards parole the perimeter in order to keep the location secure.

I recruited participants through several means. First, I contacted the residents' association in Cyberia outlining nature of my research and asking them to circulate a leaflet calling for residents to participate in the study. Allied to this I put notices up on residential association notice boards. Secondly, I posted a similar notice on electronic message boards on the

internet. The most responses came from a message board run by MMU students living in Cyberia entitled 'Cyberia Talk'. I made contact with two message board administrators who were willing to cooperate and subsequently became gatekeepers for a large network of contacts comprising students and workers living in Cyberia. Thirdly, I recruited residents directly *in situ* whilst I was conducting participant observation in Cyberia. A large amount of time was spent 'hanging out' in Cyberia and observing everyday life. This inevitably brought me into contact with residents in communal spaces in Cyberia such as recreation grounds, restaurants, cafés, swimming pools etc. I took advantage of chance encounters to introduce myself and my project and, where appropriate, asked residents if they were willing to participate. All of the above recruitment strategies inevitably led to a 'snowball effect' as I was put in contact with friends and associates of participants.

Interviews with residents were designed to talk about three specific issues: (1) their understanding of the 'intelligent city' discourses; (2) how they used ICTs in their everyday lives; (3) how ICTs intersect the on-line and off-line spaces of Cyberjaya. Interviews discussed in detail participants' personal histories about why they had come to Cyberjaya, what their experiences were, and their prior expectations about living in an 'intelligent city'. This then led onto conversations about how residents used ICTs both within and outside the smart home, what kind of connections they were making, to whom, and with what effects. After interviews I asked participants if they were willing to participate in 'go-along interviews' or conduct 'time-space diaries'.

Secondly, I interviewed 'knowledge workers' employed by MSC companies in Cyberjaya. Recruitment followed similar strategies as listed above. In particular, two networks were the most fruitful during the research period. One of these was a Cyberia resident who worked at IBM in Cyberjaya. I

recruited him by chance during an observation session at one of Cyberia's cafes when I overhead him talking about his work within IBM. I introduced myself and asked if he would be willing to cooperate with the research. By chance his neighbour was also the head of the residents' association who I had previously made contact with, who confirmed my credentials. He was responsible for managing a team within the IBM Asia-Pacific contact centre in Cyberjaya, and put me in touch with members of his team living both within and outside Cyberia. Over the following months numerous interviews were conducted with him and his colleagues about everyday work practices within IBM Cyberjaya. Ironically, IBM was one of the companies which refused to provide an interview when I contacted their executive management. I explained this to the participants and they agreed to participate in the research as long as the data was provided anonymously and that interviews would be conducted away from their office.

The second network of contacts developed from a worker within Shell IT Cyberjaya who was introduced to me through a friend in Cyberia. Once I explained the nature of the research to him he was willing to cooperate, and after building up trust, suggested I contact other members within his team. He was a senior figure within Shell IT global support team and invited me to visit the Shell office in order to conduct interviews with him, and then members of his staff within the team. I was surprised at the level of openness afforded to me by Saiful and his team which was in stark contrast to the secrecy required when researching members of the IBM team who constantly emphasised that I was not to use their name in quotes. Interviewing workers inside and outside the office inevitably created different power dynamics. In a non work related milieu (e.g. their homes, or in a café) participants were generally more open and perhaps willing to discuss issues which they would have shied away from in the presence of management staff. In contrast, going inside companies gave me access to observations of the everyday work practices in Cyberjaya's shared services and outsourcing

industry (SSO). I was able to observe routines first-hand rather than listen to them being described to me via interview. However, when interviewed (invariably in a corporate meeting room) participants were less willing to talk openly, and were often clock-watching, conscious of the fact they were devoting company time to me.

As Sin (2003) observes, social research methodology texts have often overlooked the spatial context in which interviews are actually carried out beyond recommending 'ideal social situations' where interviews should take place. The scenario above exemplifies the importance of 'placing interviews' and the subsequent effects of what Elwood and Martin (2000) term 'particular microgeographies of socio-spatial relations' that influence the kind of data that can be produced from in-depth interviews. They observe how in different locations participants are situated differently with respect to identities and roles that structure their experience and actions so that interviewees produce different types of information depending on where they are interviewed. According to Oberhauser (1997) and Elwood and Martin (2000), interviews with both knowledge workers and residents became an opportunity for further participant observation to consider the physical attributes of the site, and observe which individuals were present, how they interacted with one another, and the interviewer. In the case of Cyberjaya workers the multiple locations (e.g. the home, workplace, or café) chosen for interviews brought to bear both advantages and disadvantages that had to be finally balanced and ethically reconciled during the research process.

Interviews with 'knowledge workers' were designed to examine the nature of everyday work practices within Cyberjaya. Interviews followed three main lines of enquiry: (1) to examine the nature of work practices in Cyberjaya companies; (2) to observe how these work practices were mediated by ICTs; (3) to explore what forms of digital/non-digital connections were being made to whom, via what media, and what information was being exchanged.

Interviews discussed 'geographies of talk' (Laurier 1998) examining how day-to-day communications stretched out across distances, traversing multiple temporalities via transnational connections. Rather than researching cultures of practice in the research and development sector in Cyberjaya (which I planned to do, but found to be non-existent) my emphasis shifted during fieldwork to focus on the SSO industry comprising back-office and customer support operations for MNCs. These interviews were productive in highlighting the disjunctures (which became ever more prevalent) between the hyped discourse of 'intelligent' high-tech development and its prosaic reality on the ground. The case study approach enabled me to probe further construction of Cyberjaya as a 'discursive space' versus its experience as a 'lived space' and served to challenge my own pre-formulated expectations about the field setting. As a consequence several of the original research questions were changed and new empirical avenues were pursued.

2.4.2. Elite Interviews

By *elites* I mean a group of individuals who 'hold, or have held, a privileged position in society and are likely to have had more influence on political outcomes than general members of the public' (Richards 1996: 199). I interviewed two groups of elites within Cyberjaya. Firstly, I interviewed *political elites* within the government and quasi-government organisations who were instrumental in framing and mobilising discourse. The main body of elite interviews were conducted with individuals working with MDEC - the government body overseeing the MSC. Within MDEC I interviewed individuals within numerous departments including Corporate Communications, Marketing Division, Cybercities Division, Technopreneurship Division, Shared Services and Outsourcing Division, MSC Innovation Centre, and the Creative Multimedia Cluster. Interviews were conducted at the MDEC headquarters in Cyberjaya. I also interviewed individuals within other government bodies including Sepang Municipal

Council (with administrative control over Cyberjaya) and Cyberview (the government holding company for Cyberjaya incorporated with the ministry of finance). Interviewees within these organisations provided a range of perspectives on policy and development.

Secondly, I interviewed *business elites*. This included executive level staff within MSC status companies in Cyberjaya such as HSBC, BMW, Fujitsu, Motorola, Panasonic, Satyam, Shell, and Technomen. Interviews were conducted with country managers, heads of corporate communications, chief executives or operating officers within the companies. Where unqualified respondents were put forward companies were excluded as it would have been impolite to request for a more senior figure.[16] Interviews provided background to individual companies, the nature of their operations (numbers of staff, foreign to local ratio, nature of work etc.) in Cyberjaya to build up a profile of the types of activities being undertaken. Discussions also touched upon how individuals understood the discursive construction of the MSC, and Cyberjaya, as imagined high-tech spaces, and how this related to their experience of Cyberjaya as a live/work environment.

Both groups were contacted in the first instance by an 'official letter' outlining my background, the nature of my research, what I wanted to gain from the interview, and how I would use the data. I searched for contacts on governmental web pages, or in instances where these were not found called organisations directly to ask for the contact details of the relevant person. I was fortunate to make a contact in MDEC through a mutual friend. He became the gatekeeper for political elites and provided me with contact information for MDEC staff throughout the duration of the fieldwork period. For business elites, a list of MSC status companies is displayed on the MDEC web pages (www.mdec.com.my) providing addresses and contact

[16] By unqualified I mean respondents who could not provide information on the company as a whole, and the operations therein.

numbers for companies. Letters to both companies and government bodies generally remained unanswered and I followed up with personal phone calls to relevant individuals. Where interviewees agreed to be interviewed this was generally on the condition that I emailed a list of questions or topics that I wanted to cover in the interview. I assumed that this was to ensure that questions didn't touch upon on any politically 'sensitive' issues which might cause discomfort or embarrassment for the interviewee. After the interview each participant was asked to suggest other individuals who could also assist with the research project.

Gaining access to power elites was crucial because they have special access to discourse: they are literally the ones that have the most say. It was important to interview these individuals to critically examine their role in the planning of 'intelligent' development strategies. These individuals have extensive 'symbolic power' by virtue of their resources to shape and control discourse. Their power stems from access to, and over, the planning, setting, organisation and agenda of discourse. The more discourse genres, contexts, participants, scopes and texts that power elites control the more powerful they become. Similarly lack of power is measured by the lack of active or controlled access to discourse (van Dijk 1993). I want to investigate the disjuncture between how discourses are constructed by power elites and consumed by 'ordinary people'.

Interviewing elites was the most problematic part of the research process. Elites were inaccessible and highly conscious of their own importance. Some, especially in companies, refused requests for an interview altogether.[17] A great deal of time was spent on the phone, writing emails, being stood up or waiting for people to appear. To gain access to elites I had to build up relationships of trust. Elites were often highly suspicious of my

[17] Some companies were openly hostile to the idea of being 'studied' and said it was not in their 'corporate interest' to provide academic researchers with interviews.

motives for doing the research and were concerned how the data provide would be used. Government workers were acutely aware that anything which may come across as being 'critical' would probably result in them losing their job. While business elites are among some of the most privileged groups in the global community, they also had concerns about corporate confidentiality and were worried that the information they divulged would find its way to competitors. I sought to build relationships of trust by assuring participants early on that the research was confidential in nature, and furthermore that anonymity would be guaranteed. Throughout the research aliases are used to protect the identities of the research participants. Once elites agreed to meet I built relationships of trust in person through several means: introducing myself as a 'researcher'; ensuring that I had detailed knowledge of the interview subject; maintaining a smart appearance to construct a professional identity; emphasising that the research was approved by the Malaysian government; communicating that I was affiliated to Universiti of Malaya[18]; and, mentioning other individuals who had agreed to participate in the research. Together these factors helped to cultivate trust and create the 'snowball effect' (Richards 1996) whereby elites opened up their network of contacts to me.

Despite these problems elite interviews were one of the most fruitful parts of the research process and served to illuminate a set of decisions: why they were taken, how they were implemented, and with what result. As Crang (2002: 648) argues 'qualitative studies of elites can inform understandings in an unequal world'. The function of elite interviews is to gain inside information - which can rarely be gleaned from examining books - by providing insights from actors who played an important role in shaping the MSC vision. As I built up a rapport with interviewees through relationships of trusts I was able to ask contentious or critical questions. I acknowledge

[18] Universiti Malaya is the oldest and most prestigious Malaysian university.

these accounts to be highly subjective[19]. Often I had the experience where interviewees would mislead me about an issue in order to portray certain events or components of the project in a more favourable light[20]. Some interviewees wanted to control the interview and the nature of topics discussed. Where this occurred I had to politely, but firmly, draw the interviewee back to the relevant subject. Furthermore, it needs to be noted that elites do not have perfect, complete knowledge of the world around them, even if they suggest they do (Cook and Crang 2007).

2.5. Discourse Analysis

Alongside elite interviewing with the discursive architects of the MSC I conducted a discourse analysis of official speeches, corporate brochures, policy materials, and field photographs. Discourse analysis also examined media output dated 1995-2008 from a variety of sources including all major Malaysian newspapers (*The Star, New Straits Times, The Sun, Bernama, Berita*); leading business magazines (*The Edge, Asiaweek, Asian Wall Street Journal, The Economist, Malaysian Business*) and online sources (*Malaysiakini, MDEC, Malaysia Government*). Discourse analysis can be understood as a field of research rather than single practice (Taylor 2001). The technique is rooted in the history of semiotics that posits through an analysis of signs and symbols in text, deeper underlying meanings, imbued with specific power relations, can be uncovered. It also draws upon influence from speech act theory and pragmatics (Filmore 1984), conversational analysis (Garfinkel 1967), interactional socio-linguistics (Goffman 1959; 1967; Gumperz 1982a; 1982b), Foucauldian discourse analysis and critical discourse analysis (Fowler 1981; Fairclough 1995). As Hastings (1999) and Lees (2004) note, discourse analysis has been an often

[19] As Richards (1996) has argued, elite interviews though often fruitful are highly subjective acts of data collection. This stems from concerns about the reliability of the interviewee regarding his/her memory for recalling events, their motives in providing interview, subjective portrayals about their own role in an event or process.

[20] When this happened I did not step in to correct the interviewee. These moments were important 'gaps' between the discursive constructions of MSC by the state vis-à-vis its material development.

under-utilised, or poorly understood, methodology for urban geographical research.

Broadly Foucauldian in nature, my discourse analysis examines how a hegemonic high-tech development imaginary is mobilised through specific discursive architectures by the state and then inscribed on the urban landscape. The development of Cyberjaya is shaped by competing discourses for political-economic development that is framed across national, regional, and global scales (Chapter 4). Discourse analysis examines the enactment of dominance via two primary means: (1) through text and talk in specific contexts mobilised by discursive architects; (2) indirectly through influencing the MSC users (e.g. attitudes, norms, values, ideologies).

Discourse can be described as 'the sum of communicative interactions' (Sharp and Richardson 2001: 195). At the simplest level when we talk to each other, we are engaged in 'discourse'. On another level, discourse in policy making happens at meetings and in the consultation processes surrounding the preparation of policies, plans and programmes. Analysis of conversations, speeches, articles, statements can all be regarded as examples of *discourse as text*. While discourse is a communicative exchange it also goes beyond the text and becomes a 'complex entity that extends into the realms of ideology, strategy, language and practice, and is shaped by the relations between power and knowledge' (Sharp and Richardson 2001: 195). Therefore discourse is something which is both mobilised through and within texts (e.g. the corporate brochure, policy documents) and manifests as a set of practices (e.g. through speech communities[21]).

[21] This draws from the work on 'conversation analysis'; a detailed form of discourse analysis of speech pioneered three sociologists, notably, Sacks, Schegloff, Jefferson.

The relationship between discourse, power and hegemony is important here and folds into two analytical strands.[22] Firstly, it relates to the long Marxist tradition of political economy and ideology critique which focuses on how hegemonic ways of thinking and talking about things serve vested interests (Taylor 2001). Secondly, Foucauldian discourse analysis (a critique of Marxism, and the dominant strand in human geography) seeks to examine how discourses does not so much reflect reality, but rather create their own 'regimes of truth'. Discourses for Michel Foucault (1976; 1977; 1979) comprise groups of related statements which govern the variety of ways in which it is possible to talk about something and which makes it difficult, if not impossible to think and act outside them at a specific historical moment. Therefore, what can be said about a specific subject matter, how it is said and by whom stems from a set of discursive practices (statements which provide a language for talking about something). Such statements are seen to present an unproblematic way of talking about the topic. Discursive practices are characterised by 'a delineation of a field of objects, the definition of a legitimate perspective for the agent of knowledge, and the fixing of norms for the elaboration of concepts and theories' (Foucault 1977: 199). As Hajer (1995: 44) argues, this incorporates a specific ensemble of ideas, concepts, and categorisations that are produced, reproduced, and transformed in a particular set of practices through which meaning is given to physical and social realities'. Foucault's arguments are post-structuralist in nature and sought to question how, why, and by whom the truth is attributed to specific arguments, and not to others. Importantly, there is an "everyday-ness" to the way in which his discourses work their way through our normative routines and practices. As in the work of Billig (1996) and Shotter (1993), discourse is something which is practiced and used to regulate the conduct of others. I examine through the case study how such discursive

[22] In reality these two strands have always been mixed. For example, Said's (1978) discourse analysis of Orientalism incorporates Gramscian ideology critique with post-structural understandings of discourse as constitutive.

practices work through everyday actions and practices to construct certain understandings of the relationship between technology, society and space.

My analysis speaks to 'Critical Discourse Analysis' (CDA) which is concerned with how power is mobilised through discursive events and how texts are produced, distributed and consumed in specific sociocultural contexts.[23] As Fairclough (1995: 2) notes: 'the power to control discourse is seen as the power to sustain particular discursive practices with particular ideological investments in dominance over other alternative (including oppositional) practices'. In CDA this is closely related to a theory of hegemony - drawing on the work of Gramsci (1971) and Hall et al (1977) - which 'highlights both how power relations constrain and control productivity and creativity in discourse practice, and how a particular relatively stabilised configuration of discourse practices ("order of discourse") constitutes one domain of hegemony' (Ibid: 2). Hegemony operates in all domains of social, cultural life and is sustained ideologically through 'common sense' assumptions in everyday life. CDA examines how through certain 'ideological-discursive formations' discourse becomes naturalised through the use of language. For example, this may occur through the repetition of, or emphasis on a series of specially selected phrases or words that serve to frame the discourse (Chapter 4).

CDA assumes three analytical points of entry: *discourse-as-text*, *discourse-as-discursive-practice*, and *discourse-as-social-practice*. Firstly, it examines the role of texts (written and spoken) with their linguistic features (e.g. grammar, vocabulary, text structure etc) in the production of discourse. Secondly, the analysis focused on the institutional and discursive practices within which texts are embedded. It also addresses how the texts are

[23] Critical Discourse Analysis (CDA) has diverging origins including the Frankfurt and neo-Marxian tradition (e.g. Marx, Gramsci, Althusser), anthropological linguistics (e.g. Gumperz, Gal, and Silverstein), literary analysis (e.g. Cole, Wertsch, Gee), and the work of Michel Foucault. CDA gained prominence in the late 1980s, spearheaded by the work of Norman Fairclough, Ruth Wodak, and Teun van Dijk.

circulated in society. Thirdly, the above two run in parallel with an ethnographic analysis of the social contexts within which texts emerge and act. This examines the ideological effects and hegemonic processes in which the discourse is a feature.

My objective is to highlight two points; firstly, the interpretative context, that is the social setting in which the discourse is located; second, the rhetorical organisation of the discourse, that is the argumentative schema that organizes a text and establishes its authority (Lees 2004). In doing so I hope to bring discourse back into focus within urban geography and examine how Cyberjaya is mobilised as a textual space. I address how meaning is constructed through materials, and how these materials circulate to produce certain effects. Utopian discourses are constructed through specific acts and objects - speeches by government officials, marketing materials for Cyberjaya-MSC, policy documents, planning guidelines, and mainstream media. There is a specific language (or discursive practice) that circulates through MSC imbued with specific power relations to create specific social conditions. I used CDA to de-naturalise these structures and address how certain power relations and orderings of space that are embedded in the discourses.

At the core of this enquiry is a focus on the tension between hegemony and counter-hegemony. Beneath the hegemony of state mobilised discourse and practice empirical material highlights how counter-hegemonic narratives and insurgent forms of citizenship emerge on the ground in Cyberjaya. As a result, no discourse is truly hegemonic, and where forms of power and control are mobilised forms of resistance will inevitably emerge. My discourse analysis analyses four main 'texts' in order to examine how the discursive architectures of MSC-Cyberjaya are constructed.

2.5.1. Political Actor: Dr. Mahathir Mohamad

The former Prime Minister Dr. Mahathir (in office 1981-2003) is the main policy architect for the MSC vision. Mahathir played an active role in the construction of the hegemonic MSC discourse, and manipulated it through the national media.[24] Examining the speeches of Mahathir enables me to trace the genealogy and historical development of the MSC discourse. Drawing on Foucauldian analysis, I examined the mechanisms through which the MSC concept emerged. My analysis focused on the policy speeches from Mahathir, specifically during his much-vaunted MSC promotional "World Tour" during 1996-1997 (Chapter 4). The discourse of the MSC cannot be reducible to one man, but nonetheless this particular man did more than anyone else to promote and frame the discourses for the MSC. However, Mahathir was a product of a political-economic context and influenced by, and able to draw upon, the authoritative discourse of a range of other 'information society' architects. His speeches and promotional events served to promote a language that was informed by these social, cultural and political conditions and also shaped techno-social order in Malaysia that framed interactions between citizen and society.

2.5.2. Corporate Brochures

There are numerous promotional and information brochures about the MSC and Cyberjaya produced by different stakeholders in the project including government departments (MDEC, MOSTI, MIMOS), property developers (Setia Haruman, MK Land) and quasi-government bodies (Cyberview, Technology Park Malaysia). Documents range from marketing materials designed to attract potential investors (such as house buyers, companies),

[24] Censorship and media control were prominent factors in Mahathir's reign which was characterised by semi-authoritarian rule. In Malaysia the government retains content control over all mainstream newspaper, and television is highly censored. This allows for tight control over discourses. Though the internet does offer the potential for a more critical, free-ranging new media exemplified in such new sites as *Malaysiakini*. *(See Chin, J. (2003) 'Malaysiakini.Com and its impact on journalism and politics in Malaysia'. In: Ho, K. C., Kluver, R. and Yang, K. (Eds.) Asia.Com: Asia Encounters the Internet. London: Routledge. 129-142.)*

information booklets for raising public awareness about the project to user guides on how to use the flagship applications. I conducted a semiotic analysis of these materials to examine how the corporate vision for MSC-Cyberjaya is constructed. Drawing upon intertextual analysis I show how texts function via particular configurations of conventionalised practices (genres, discourses, narratives etc). All of these documents convey specific understandings of the relationship between the MSC and 'intelligent-led' development. My analysis examined: how the texts were positioned? Whose interests were served by this positioning? Whose interests were negated? What were the consequences of this positioning?

Semiotic analysis is concerned with the use of symbols, the placement and content of text, design and layout, colour, to communicate meaning in the text. An example of how I conducted semiotic analysis is the following discussion of the MSC logo. This draws upon semiotic analysis of the image, and interview material with the 'MSC architects' (Figure 3).

SIGN	SIGNIFIER	SIGNIFIED
Logo	Rising sun	Dawning of a new technological era, signifies a new phase in Malaysian national development.

	Three Rays	1)High capacity global telecommunications links and logistics infrastructures 2)New policies and Cyberlaws 3)Attractive environment to live and work in
	Heart of the Logo, green sphere	Emphasizing the environment consideration in policy making. Epitomised in designing of Cyberjaya as intelligent garden city, leading to man-nature-technology living in harmony
	Arch	Unification of diverse strengths, a prerequisite for success. Creation of mutually interdependent webs for success.

Figure 3: Discourse Analysis of MSC Corporate Logo

2.5.3. 'MSC Architects'

Interviews with government ministers, numerous actors within MDEC examined how discourse was constructed through specific speech acts (e.g. formal speeches, presentations, and interviews). Alongside Mahathir, I conceptualise this group of political elites as the 'MSC architects'. They are highly influential in constructing the MSC discourse through what they say. Their use of language was my major focus as speeches are discursive practices in themselves and serve to formulate what it is possible to say about a specific subject. Interviews with political elites were transcribed as a mode of performance speech then examined as texts which construct ideological-discursive formations imbued with vested interests.

2.5.4. Field Photography

Photographs of Cyberjaya served as a useful *aide memoire* with field notes to reflect back upon the research site.[25] Images included key features of Malaysia's nascent 'IT landscape' and included signs and symbols that were seen to be emblematic of a new high-tech modernity (smart homes, corporate offices of IT companies, MSC-themed street furniture). This draws upon work in cultural geography which has examined how discourse is embedded in, and articulated through material effects (Cosgrove and Daniels 1988; Crang 1998). In this case, landscape can be 'read' as a text which mobilises certain meanings and materially embeds certain discourses. My concern here is how discourses have been inscribed on the landscape and in what form. Cyberjaya is a city designed to communicate very specific meanings to those who inhabit and observe it. Street names are imbued with certain mythologies of the 'information society', bearing names seen to signify advanced technological achievement (e.g. Silicon Road, Multimedia Super Corridor Way, Technocrat Drive). Furthermore, street furniture is all stamped with the trademark MSC logo described above, and numerous place names are re-branded to correlate to MSC discourse. For example, residential complexes are called Cyberia, Cyberheights, Cyberia Crescent while local businesses I encountered were *Cyber*-realty (estate agent), *Cyber*cafe (a café), *Cyber*nasium (a gym), *Cyber*-prints (a printing shop). The use of photography in the thesis will convey how discourses are *literally* inscribed on the landscape in the place-making of Cyberjaya (Figure 4).

[25] These photographs appear in later empirical chapters to illustrate specific analytical points. Although field photography raises methodological issues about representation, truth and reality.

Figure 4: Jalan Silikon ('Silicon Road') in Cyberjaya (Source: Author's Photograph)

2.6. Conclusion

The methodological framework has two main components. Firstly, interviewing, participant observation combined with 'go-alongs' and diary methods attend to everyday practices in Cyberjaya. Secondly, a discourse analysis critically unpacks the construction of discursive architectures in Cyberjaya, and how they have been inscribed on the landscape. The chapter has also addressed the ethical implications of conducting fieldwork and has explored the power relations between the research and participants.

Chapter 3. Conceptual Framework

3.1. Introduction

The chapter introduces the conceptual framework and provides an essential overview of relevant theoretical literatures. Challenging the high-tech utopianism of a coming 'information society' and 'new economy', the chapter critically examines the role of ICTs in the discursive framing and material production of urban spaces. The chapter outlines how the discursive architectures of the 'information society' and 'new economy' have been incorporated into state developmental discourses and inscribed on the landscape through technopole planning strategies. Following this, the chapter contests these 'new era' accounts of a 'powered up modernity' (Thrift 1996: 1463) through a call for an analytical sensitivity to everyday practices and lived experiences in the purported 'high-tech' city. This 'view from below' (Bunnell 1999; Mendieta 2001) opens a new conceptual space for counter-hegemonic narratives to emerge which challenges technologically deterministic assumptions about technology and development in Malaysia.

The chapter outlines a conceptual critique of I.T.-facilitated globalisation as a 'frictionless' - as Bill Gates (1995) would have us believe - and its 'homogenising effect' whereby global flows are seen to be increasingly placeless, moving in and out of real places at will, playing to the whims of transnational capital. The thesis promotes a shift in analytical focus from 'meta-theory' (Lyotard 1984) to a grounded, relational approach which examines the effects and material consequences of so-called *globalisation* in a specific place at a specific time; and the role of technology in this process (Katz 2001). This is not to set up a dialectical opposition between the local as a site of resistance to the onward march of globalisation that should be

retained as something inherently more authentic. Rather, the thesis promotes particular analytical sensitivity to the spatial milieu in which global processes are embedded, and addresses how they are socially reproduced in everyday settings.

The structure of the chapter is as follows. Section 3.2 provides the geo-historical context to contemporary debates on the 'information society' and 'new economy'. Section 3.3 elucidates the 'spatial concepts' of 'deterritorialisation' and 'reterritorialisation' (Brenner 1998a; 1998b; 1999a; 1999b; 2004) and 'sticky places' and 'slippery space' (Markusen 1996) that structures my thinking on the intersections between neoliberal globalisation, technological change and contemporary urbanism. Section 3.4 explores how developmental states have materially and symbolically invested in high-tech utopianism through technopole planning processes. Section 3.5 provides a critique of the technologically deterministic ways in which science and technology have been appropriated in technopole planning strategies. The final Section 3.5 promotes a focus on the nature of lived "everyday-ness" and practices in technopoles to allow non-deterministic, counter-hegemonic narratives to emerge.

3.2. Quantum Leaps and 'New Era' Globalisation Speak

The section contextualises the 'information society' and 'new economy' concepts that have become integral components of contemporary globalisation discourse. The concepts have played an integral role in constructing a form of high-tech utopianism manifest in the discursive framing of the MSC. The thesis approaches these 'new era' accounts both critically and interrogatively by recognising their utopian tendencies towards an empirically thin, technologically deterministic account of contemporary globalisation which overplays state roll-back, a perceived 'death of distance', and the erosion of borders (Ohmae 1991; O' Brien 1992; Ohmae 1995;

Leadbeater 1999; Cairncross 2001; Online 2003). The proposed transition to an 'information society' and 'new economy' has been based on the assumption we live in a new technological epoch whereby ICTs were seen to affect all aspects of cultural, economic, social, religious, and political life. As Thrift (1996: 1465) expertly observed, the growing technologisation of the everyday was greeted with '*fin-de-siecle* celebrations of the end of life as we know it'. Both the 'information society' and 'new economy' concepts have become key tenets of contemporary 'globalisation speak' encompassing a 'metanarrative' that seeks to capture just about everything that is happening in the world today. This has been rightly critiqued as grand theory at its most excessive, characterised by theoretical laxity evident in the constant reference to the classic hollow concept of 'globalisation in action' (Swyngedouw 2000). This ranges from claims that each Big Mac eaten is confirmation of cultural homogenisation to the hypothesis that all-powerful global cities are becoming planetary centres for just about anything, and everything. According to the global purveyors of globalisation hype we now live in a globally integrated 'network society' (Castells 1996) in which nothing is untouched by omnipresent global forces. The section does not seek to provide a comprehensive overview of contemporary globalisation debates but rather seeks to illuminate the geo-historical background from which Malaysia's 'information society' ideal emerged.

3.2.1. Foregrounding the 'Information Society' Utopia

Speculation concerning the coming of a new 'information society' has accelerated as the rate of technological advancement rose exponentially over the past 25 years. For instance, as Graham (2004b) notes, between the 1980s and late 1990s computing speed was doubling every year; thus, following the rate of technological advancement predicted in Moore's Law. During this time societies across the planet encountered a whole range of new technologies from TVs, digital cameras to mobile phones and personal data assistants. As each technology emerged it created a new mythology

about its capacity to wreak social change. However, the evolution of the Internet in the mid-1990s both created and accelerated a new wave of unparalleled 'techno-hype'. Cyberspace was seen as a new 'electronic frontier' ripe for colonisation, thus enabling 'a country like Malaysia to more easily 'leapfrog' ahead to the 'information age' (Mahathir 1998) via material and symbolic investment in information technology as a national development strategy. Malaysia uncritically accepted a futuristic vision of how the Internet would create a new 'information society' as outlined by Microsoft founder Bill Gates:

> 'We are all beginning another great journey. We can't be sure exactly where this one will lead either, but I'm certain it will touch many lives and take us even farther. The major changes will be in how people communicate with each other. The benefits and problems arising from this upcoming communications revolution - which in its early stages we might call the "Internet Revolution" - will be much greater that those brought about by the PC revolution.'
>
> (Gates 1995: xiii)

The 'information society' encompasses a broad array of terms including the 'cybersociety' (Jones 1995), 'post-industrial society' (Bell 1976), 'knowledge society' (Ever 2003) and 'network society' (Castells 1996) which each seek to describe the nature of a high-tech society. The 'information society' concept was constantly referred to in MSC policy and promotional materials as the imagined end-state for a Malaysian high-tech modernity whereby 'the nation takes a quantum leap into the age of information technology' (*The Star*, 01.10.2006). This utopian vision arose out of technologically deterministic assumptions that a technologically infused society would ultimately become a progressive 'information society' whereby universal benefits would be experienced by all. This was based on the hypothesis: (1) that the internet necessarily promotes democratisation; (2) that a 'new economy' operates on entirely different principles from that of the 'old

economy'; and (3) that an IT-based economy would allow developing nations, such as Malaysia, to 'leapfrog' to 'developed nation status' without going through the kinds of reforms that were necessary in other societies.

Despite the state's claims to be at the vanguard of a 'new era', the 'information society' concept which the MSC sought to mobilise has clear geo-historical origins. In order to extrapolate the origins of MSC Malaysia we make a brief detour to trace the origins of these 'information society' and 'new economy' discourses.

Firstly, Malaysia's proposed linear transition to a 'new stage' of national post-colonial development resonates with modernisation theories and notions of knowledge 'trickle down'. By investing in the new technologies which were conceived as the drivers of globalisation, the state sought to create the socio-psychological preconditions for 'take off' into a new 'information society' era. Such modernisation theories were far from politically neutral development paradigms but rather have significant Cold War ideological baggage. Walt Rostow, who served in both the Kennedy and Johnson administrations, described the stages of economic growth in his 'non-communist manifesto' that provided the U.S. Cold War Left with a credible capitalist version of economic history and future.

> 'It is possible to identify all societies, in their economic dimensions, as lying within one of five categories: the traditional society, the preconditions for take off, the take off, the drive to maturity, and the age of high mass-consumption.'
>
> (Rostow 1960: 4)

Rostow emphasised the importance of science and technology in making the transition from a 'traditional' society to a 'developed' society. In particular, Rostow argued that foreign investment and technology transfer of technology by wealthy (Western) countries would allow 'backward' countries

to modernise faster. The notions of 'trickle-down' were expanded upon by Basalla (1967) who outlined the stages by which scientific knowledge and technical expertise could be transferred from the centre to periphery.

Secondly, notions of technology-enabled developmental 'leapfrogging' were tied into another U.S. Cold War ideology; the 'information society'. A range of intellectuals supported by the American government, often through CIA-funded research agencies, sought to articulate the 'end state' for the 'mass society' which characterised the final stage of Rostow's development model (Kahn and Wiener 1967; Wiener 1967; Drucker 1969; Brezinski 1970). Of these Daniel Bell was foremost, building on McLuhan's (1964) 'global village' hypothesis, he imagined a technologically determined utopian future in his influential book *The Coming of a Post-Industrial Society* (Bell 1976).

Bell's 'post-industrial society' was to emerge as a consequence of a proposed transition from an industrial society, based on manufacturing, to an economy based on computerised service industries with information as the primary 'raw material'. Bell predicted this would enable a new utopian society to develop based around the creation and distribution of knowledge across economic, cultural, and political spheres. The vast numbers of people in advanced societies (e.g. UK, USA) employed in the service economy was seen to confirm Bell's hypothesis. Such 'information society' futurism continued in the work of Alvin Toffler (1970; 1980) who foresaw the coming of a new 'third wave'. The first and second were agricultural and industrial respectively but the third would be a high-speed technological revolution signalling a quantum jump forward in history. He claimed the *Third Wave* signalled 'not just a technological revolution but the coming of a whole new civilisation in the fullest sense of the term'.

With obvious Cold War overtones, for both Bell and Toffler their 'information society' represented the 'end of ideology' and a social utopia to which all

advanced nations should aspire. The U.S. Cold War Left pioneered the quasi-academic discipline of futurology that still persists today in 'new era' speak about a coming 'information society' that in turn has become influential in modernisation discourses. In 1994, the U.S. Vice President, Al Gore, outlined the virtues of the global 'information society' in his vision of a Global Information Infrastructure (GII). As Matterlart (1999: 18) notes, the underlying message of his speech was: 'only by opening national telecommunications systems to the logic of the market, that is their privatisation, secures development'. These techno-utopian visions have been promulgated by a number of "business gurus" selling future scenarios of a digital future (e.g. Bill Gates, Nicholas Negroponte, Kenichi Ohmae, and *Wired* Magazine).

'Information society' futurology has influenced developmental states like Malaysia to mobilise the 'information age paradigm' (Uimonen 2001) as a means of fast-tracking national development strategies through neoliberal policies of deregulation and material investment in science and technology and as the drivers of a "soon to arrive" high-tech modernity. The obvious critiques of these discourses are explored later in the chapter when highlighting Malaysia's alternative/hybrid modernities. What is important for now is the primary role information technology was afforded in Malaysian 'new era' development discourses and perpetuated through specific ideological agents or institutions (Chapter 4).

3.2.2. The Contemporary 'New Era' of Globalisation?

Information technologies remain a key aspect of current globalisation and modernisation theories. For example, globe-spanning telecommunications infrastructures are widely seen by globalisation theorists (e.g. Virilio 1993) to be 'speeding up' and 'stretching' social processes following Harvey's (1990) work on 'time-space compression'. Such notions of a 'shrinking world' have

intellectual origins in McLuhan's (1964) 'global village' that helped to create an image of emerging global interconnectedness and simultaneity that still resonates today (Kirsch 1995). The current contours of the 'information society' in an era of globalisation are characterised by simultaneity, instantaneity, and excessive talk about 'the acceleration of just about everything' (Gleick 1999). From the real-time circulation of global finance to the near instant reporting of news events, or the mediation of everyday life by mobile phones or email, there appear to be virtually no aspects of human existence left untouched by new technologies.

> 'With acceleration there is no more here and there, only the mental confusion of near and far, present and future, real and unreal- a mix of histories, stories, and the hallucinatory utopia of communication technologies.'
>
> (Virilio 1995a: 34)

Contemporary predictions concerning a 'new era' are based on several assumptions about the nature of ongoing spatial restructuring through globalisation. Firstly, the promotion of deregulation, liberalisation and privatisation policies over the last two decades signal a neoliberalist ascendance in shaping the latest phase of globalisation, or 'the realisation of the world-as-a-whole' (Chin 2000). Neoliberal globalisation has been conceptualised as a highly unequal and selective process of global economic integration whereby the benefits of growth are likely to be distributed unevenly between and within nation states (Gill 1995; Tickell and Peck 2001; 2003; Ong 2006). This is a process defined by Massey (2004: 97) as:

> 'A form of globalisation working primarily to the benefit of major multinational corporations, legitimated by particular forms of economic understanding (for instance, as promulgated, and enforced, through the International Monetary Fund) and energetically pursued by numerous elites

and national governments around the world, most notably in the United States of America and the United Kingdom.'

Neoliberal globalisation is imagined to create economic, social and cultural conditions that are seemingly 'borderless' (Ohmae 1991) producing a spatial homogenising effect, whereby, the diffusion of ICTs has enabled capital, management, labour, knowledge and markets to be integrated across 'planetary urban networks' (Graham and Marvin 1996: 125) in real-time. While evidence of a globally integrated economy can be traced back to the 13th century (Abu-Lughod 1989), ICTs are facilitating rapid structural changes in urban economies based on high levels of capital mobility, the hegemony of MNCs and the concentration of service industries in world metropoles. Despite utopian predictions of an 'interconnected' world (notably McLuhan 1964), neoliberal globalisation is a process resulting in uneven geographical development and widening digital divides between those who have/don't have access to ICTs across all scales.

Secondly, as economic processes are globalised urban places can be literally "wired" into the neoliberal capitalist system and re-orientated to global markets through state-of-the-art telecommunications infrastructures. Consequently, it is perceived that otherwise geographically peripheral spaces can join in with the 'new economy' of 'anytime/anywhere' 'informationalised capitalism' (Castells 2000a) and overcome the 'new international division of labour' (Frobel 1980). This is a process by which the global economy is separated into core (in the developed world) and peripheral areas (in the developing world) that divide skills and tasks between different regions or countries in the global capitalist economy. It describes the mechanism by which MNCs have shifted production and business processes services to the developing world in order to speed up the motion of capital, overcoming spatial, temporal, and political restrictions.

The 'new economy' is seen to 'flatten out' regional competitive advantages through investment in information technologies (Ohmae 1991).

Thirdly, is the emergence of a new form of economic production and management that is 'information-driven', whereby international competitiveness is increasingly determined by access to knowledge and the ability to generate new knowledge. As national economies are re-orientated towards producer services, knowledge production, management and diffusion that have become the dominant mechanisms through which value is added in production processes. These theories have historical precursors in Drucker's (1969) 'knowledge economy', Machlup's (1962) 'information industries', and Porat's (1977) 'information economy'.

3.2.3. 'Anytime/Anywhere': The 'New Economy' Calling?

The latest version of economic change has been broadly theorised as a transition from the 'old economy' (industrial, manufacturing-based, urban, Fordist) to a 'new economy' (knowledge-led, innovative, 'anytime/anywhere', flexible accumulation). The 'new economy' discourse promotes the internet (i.e. e-commerce) and ICTs as the new driver of economic competitiveness, which according to Gates (1995), will lead to: 'a new world of low-friction, low-overhead capitalism, in which market information will be plentiful and transaction costs low'. Following on from work done by Castells (2001a), the 'new economy' been characterised in three ways.

Firstly, it is assumed economic development is dependent upon knowledge innovation and that the capacity of knowledge creation which works directly through new technologies mobilising, as Leadbetter (1999) claims, a 'weightless economy'. Secondly, the 'new economy' operates in an institutional environment geared towards deregulation and liberalisation superficially intended to 'jump start' regional economies. This neoliberal economic model has become a 'truly hegemonic ideology' (Tickell and Peck

2003: 16) mobilised through global organisations such as the World Bank, World Trade Organisation (WTO) and the International Monetary Fund (IMF). Neoliberalism promotes a "free market utopia" whereby capital can move in and out of states in order to maximise profits. Thirdly, the 'new economy' is dependent on the organisational form of the network. For instance, globally integrated telecommunications and transport networks are able to operate 24 hours a day. Contrasted to the old economy of the industrial age the networks are highly flexible, contingent and tie economies, MNCs, and markets together over vast distances. This has led to some commentators writing a requiem for traditional urban economies as telecommunications provide the glue for a spatially fragmented but electronically integrated economy (Winger 1997).

In sum, globalisation has been interpreted by a number of scholars (Virilio 1987b; Harvey 1990) as a range of processes involving *distanciation* (the stretching of social, cultural, political, economic relations across space and time) and *time-space compression* (the apparent annihilation of space by time through ICTs). However, while technology is an agent of social change, the thesis promotes a non-deterministic view of such changes and approaches such hyperbolic accounts critically as an 'image of the world' (Heidegger 1977) a manifestation as a classic hegemonic representation of planetary space. Instead, the chapter works with a more grounded definition of globalisation as a process which leads to:

> 'The stretching and deepening of social relations and institutions across space and time such that, on the one hand, day-to-day activities are increasingly influenced by events happening on the other side of the globe, and on the other hand, the practices and decisions of local groups could have significant global reverberations.'
>
> (Held 1995: 20)

Following Doel and Hubbard (2002), globalisation can be reconceptualised not as universal or unitary, but heterogeneous and fragmented: a geography created by discourses engineered by those who have most to benefit from the opening up of borders, deregulation, and privatisation. Historically, the 'information society' concept was promoted by the USA in an ideological Cold War against Soviet cybernetic communism. Now talk of an 'information society' or 'new economy' is mobilised by political and business groups who promote globalisation discourses to ensure that national development policies are formulated in a 'market friendly' neoliberal environment. It is sustained primarily through 'capital-centric' business discourses that have a vested interest in proposing the image of a coherent, universally beneficial global economy while extolling the benefits of 'open markets'. The rhetoric of Ohmae's (1991, 1995) 'borderless economies' and Gates' (1995) 'friction free capitalism' has become a euphemism for deregulation and the triumphalism of the neoliberal economic model. In these terms USA Cold War ideologies of creating the perfect capitalist market utopia of the 'global village' have succeeded.

> 'Techno-utopia has become an ideological weapon of the first order in trading influence to sustain a free market vision of global order. Despite proclamations which periodically sign the death warrant of the nation state, together with history and ideology, this remains the enemy whose prerogatives have to be challenged well beyond its complicity in deregulation...Techno-utopia gives birth to the dream of unmediated planetarism.'
>
> (Matterlart 1999: 19)

The thesis sounds a note of caution against the abstract theorisations which characterise the globalisation debate. These have been often rooted in claims about the dawning of a new 'techno epoch' (a habitually recycled term) which serves to obfuscate underlying political-economic motives and

actual existing patterns of urban change. Often, within these debates there is a blurring between what is presented as fact and what is down to sheer academic interpretation (Bell 1976; Toffler 1980). The chapter seeks to avoid lapsing into disposable theories, and in turn, argues that globalisation does not alter cities in predetermined ways, as these sites are relationally figured in multiple national, social, and economic contexts from which emerge different strategies for the management or resistance of globalisation. While the Malaysian state embraces notions of modernisation and a utopian belief in science and technology it does so on its own terms, producing a hybridised version of the 'information society' which incorporates global and local narratives (Chapters 4 and 5).

3.3. (Re)conceptualising the 'Information Society': In-Between Fixity and Motion

The thesis reflects a shifting mood in the globalisation debate from the construction of globalisation as an abstract, irreversible process announced through the advent of a 'borderless world' (Ohmae 1991), marked by the 'death of distance' (Cairncross 2001), to growing talk about the messiness of globalisation and its social and political contestation (Bauman 1998; Beck 2000; Scholte 2000). Prior to these recent interventions globalisation had been conceptualised as a powerful planetary force homogenising spatial conditions with the effect of "washing over" local places, culture, and people via a process that is as frictionless as it is placeless. In line with scholars that are critical of globalisation the research challenges the premise of globalisation as an 'irrevocable process to which there are no alternatives' (Barnett and Low 2000: 56). The pre-given sense of globalisation as leviathan can be reconceptualised as 'an immanent and aleatory effect of contingent encounters' (Doel and Hubbard 2002: 355) in which place, rather being obliterated by technological overkill, becomes increasingly important as a fixing point for transnational flows, circuits, exchanges within the global capitalist system.

From a post-structural perspective, place can be conceptualised relationally as both mobile and fixed, whereby flows drift in and drift out, speed up and slow down, contract and expand within a networked space (Doel 1999) that is part local, and part global. In Cyberjaya, this creates geographies that are both deeply territorial and deterritorial in nature- a new networked space which is connected in certain ways ('sticky'), but highly disconnected in others ('slippery') (Markusen 1996). For example, while social and economic practices occur 'out there' in the 'slippery space' of Castells' (1996) 'global space of flows' as they become distanciated, and stretched, they are fixed towards certain 'sticky' places that possess the characteristics to harness, manage and coordinate these flows.

In this light the thesis moves forward with two main aims. Firstly, to mobilise a relational perspective to critique the meta-ideologies of globalisation and expose the 'wobbly discursive architectures' of the MSC's proposed 'quantum leap' into an imagined new 'information age'. Following Jones and Carranco (2007: 147), it is by 'exposing these "rough edges" to the shiny new megaproject that we can reveal the instability of a contemporary urbanism seen to be dictated by an all powerful globalisation'. Secondly, while as Giddens (1990: 17-21) notes, the social organisation of time and space has been partly abstracted or 'pulled away' from locales under conditions of modernity; the thesis observes how the capabilities for global operation, coordination, and control mobilised via ICTs need to be *produced* in places. This dialectical relationship between motion and fixity can be summarised by Brenner (1999b: 435) who writes:

> 'For present purposes, the term globalisation refers to a double-edged, dialectical process through which: the movement of commodities, capital, money, people and information through geographical space is continually expanded and accelerated; and relatively fixed and immobile spatial

structures are produced, reconfigured and/or transformed to enable such expanded, accelerated movement.'

A critical geographical viewpoint, is developed to examine the embedding of global transactions, practices, flows in local contexts and their material consequences to critique 'a dissociation between abstract flows in space and concrete valorisation in place' (Jessop 2000: 5). In essence a relational perspective highlights the multiple disjunctures that appear in the MSC project which hybridises national development goals with deterritorialised neoliberal globalisation. The thesis empirically engages with globalisation in action, as it touches down at strategic geographical site, in a unique time-space. In turn, geography functions as a 'mediating discipline which is particularly sensitive to the continued salience of the local. The local, in turn, becomes the object through which geographers emphasise the value of difference, variety, and specificity' (Barnett and Low 2000: 54).

3.3.1. Towards a New Networked Sub-Economy? Reterritorialising Transnational Flows in Local Places

Deterritorialisation[26] has been one of the main tenets of contemporary globalisation 'speak' crystallised in *The Economist's* (1995) famous caption proclaiming 'suddenly....distance no longer mattered'. Such a hypothesis promotes the view that territory is losing its significance for everyday life via a reconfiguration of locally-based social relations to globally mediated ones that are transnational, post-national, post-colonial in nature (O' Tuthail 1999). The geographical stretching-out of social relations is a process which Giddens termed 'time-space distanciation' (Giddens 1990: 21). In popular and academic accounts this has been characterised as a disembedding process, partly driven by neoliberal economic practices, whereby: geography is 'dissolved' or simply eradicated by ICTs (Cairncross 2001); national

[26]The concept of *deterritorialisation* first appeared in the work of Deleuze and Guattari in *Anti-Oepidus* (1972). The term has since evolved to become part of the analytical vocabulary for describing contemporary globalisation trends.

borders become obsolete (Ohmae 1995); political-cultural identities deterritorialised (Appadurai 1996); and supra-national political organisations become dominant. Such arguments propose that deterritorialisation is the dominant spatiality of globalisation in which place is interchangeable, distance collapsed through ICTs, and borders can easily be overcome. In this hypothesis it is argued that the acceleration of globally circulating flows (capital, commodities, people, symbols, identities), social relations become increasingly detached from locality and less place-based.

Castells (1996; 2001b) articulates this deterritorialisation process as the emergence of a 'network society' whereby individuals are more tied into networks, mediated by ICTs, than to the places themselves. He conceptualises the impact of ICTs on space in terms of their potential for endless deterritorialisation whereby a 'space of places' is being replaced by a 'space of flows'. His 'informationalised capitalism' imagines a patchwork geography of economic winners and losers in which 'the space of flows links up distant locales around shared functions and meanings on the basis of electronic circuits and fast transportation corridors, while isolating and subduing the logic of experience embodied in the space of places' (Castells 2001b: 155). This form of capitalism is driven by technological systems which:

> '...appear to supersede functional need for spatial proximity as the basis of economic efficiency and personal interaction. The emergence of a global economy and of global communication systems subdue the local into the global, blurring social meanings and hampering political control, traditionally exercised from localities. Flows seem to overwhelm places, as human interaction increasingly relies on electronic communication networks...Thus cities, as specific forms of social organisation and cultural expression, materially rooted in spatially concentrated human settlements, could be made obsolete in the new technological environment.'
>
> (Castells 2002: 367)

According to Castells, this produces a dominant mode of 'informationalised capitalism' operating round-the-clock from any point in the globe where economic transactions occur digitally, leading to a loss of chronological rhythm or 'timeless time'. This is an inherently uneven process in which the application of ICTs is used to fragment or 'splinter' urban space (Graham and Marvin 2001).

> 'They can operate in real-time or in chosen time, and furthermore, the flexibility of the new technological system makes it possible for the new economy to select its components around the planet, in an endlessly variable geometry of value searching. This implies bypassing economically valueless or devalued territories and people... domestic deregulation, liberalisation of trans-border transactions, financial wizardry and new information technology have succeeded in mobilising potential sources for investment everywhere to everywhere, and from whatever to whenever.'
>
> (Castells 2001b: 53-54)

Castells 'network society' hypothesis has become a hegemonic mode of thinking about the 'information society'. However, it says surprising little about the nature of the networks which constitute this new globalism. Alarmingly it advocates an overtly simplistic substitutionist perspective that sees an ontologically fixed, localised space of places substituted for an omnipresent space of digital flows. Castells 'space of flows' articulates with what Negroponte (1995) terms 'physical atoms' being replaced by 'digital bits'. Alongside his MIT Media Lab colleague, Bill Mitchell (1995; 1999; 2004), both are the main advocates of the substitutionist perspective.

> 'The city will be uprooted to any definite spot on the surface of the earth, shaped by connectivity and bandwidth constraints...largely asynchronous in its operation, and inhabited by disembodied and fragmented subjects who exist as collections of aliases and agents. Its places will be constructed

> virtually by software instead of physically from stones and timbers, and they will be connected by logical linkages rather than by doors, passageways, and streets.'
>
> (Mitchell 1995: 24)

Such a hypothesis argues new technologies supersede the functional need for territorial-based physical proximity. As a result, as Moss (1987: 536) has observed, 'the operational boundaries of the city are no longer defined by geography or law, but by the reach of phone lines and computer networks'. Substitutionists argue that eventually the city becomes redundant as the primary site for human interaction as digitised time-spaces can simulate the lost geophysical urban spaces of human habitation (Pascal 1987; Bukatman 1993). In a now familiar 'shrinking world' metaphor, McLuhan's (1964) 'global village' is paralleled by urban dissolution and finally 'a withering away' (Winger 1997) of cities as ICTs create a new mode of spatial organisation not tied to established urban hierarchies or diurnal regimes of night and day.

> '...with instant electrical technology, the global itself can never again be more than a village, and the very nature of the city as a form of major dimensions must inevitably dissolve like a fading shot in a movie.'
>
> (McLuhan 1964: 343)

Webber evaluates the impact of long-distance communications- what he terms 'the nonplace urban realm' – on physical propinquity and the need for centralisation in the traditional city. In a forerunner to the globalisation debate, Webber (1963; 1964) argued that communications media enables social relationships and communities to become less tied to the territoriality of the neighbourhood, suburb, metropolis, region, or nation. This anti-urban vision of an idealised pastoral retreat resonates with modernist planning utopias (e.g. Le Corbusier, Lloyd Wright) and their emphasis on urban decentralisation (Chapter 5).

Furthermore, anti-urban notions of network transcendence again have historical genealogies in Cold War geopolitics. The Internet emerged out of ARPANET, a 1969 Cold War operation of the U.S. Defence Department to link together strategic military centres in the preparation for any Soviet military attack. Notably, networked utopianism was manifest in the work of chief U.S. Cold War planner Doxiadis who merged urban planning, network forms and cybernetics in his influential 'Eksistics' movement (Wigley 2001; Provoost 2006). This movement drew upon both McLuhan's 'global village' and Le Corbusier's modernist grid, to argue that future urban planning would resemble a process of making a communications network visible in space. Doxiadis imagined a form of planetary scale dwelling as 'a continuous network of centres and lines of communication' in which 'all parts of the settlement and lines of communication will be woven together into a meaningful organism' (Doxiadis, cited in Wigley 2003: 88).

In a different vein, notions of networked geographical transcendence are supported today by evidence from the digitisation of economic relations in the global financial markets - even though these markets support a fraction of financial products, and are concentrated in a small number of cities. The planetary span of networked telecommunications infrastructures has enabled the automation and integration of financial markets via an always on, real-time global economy in selected places. This is what Kellner (1989) labelled 'technocapitalism'; a form of capitalism characterised by its reliance on ICTs both in its conception and dissemination. As O'Brien (1992: 1) optimistically observes, the latest wave of 'informationalised capitalism' has led to a 'state of economic development where geographical location no longer matters'. As social and economic relations become (partly) lifted out from localised contexts, the economic order of the globalised world becomes increasingly volatile as multinational capital moves in and out of nation states. As Swyngedouw (2000) notes, the concept of deterritorialisation is used to summarise an imagined process seen to be 'a-geographical' or 'a-spatial',

and as a result, disempowering. In this schema the local is helpless, under the attack of colonising globalising forces washing over places with tsunami like effects.

This was exemplified in the Asian Financial Crisis 1997-1998 which was caused, in part, by speculation on local currencies by outside investors. As Southeast Asian states implemented policies for financial liberalisation in the 1990s - buoyed by the success of the heralded 'Asian Miracle - massive irreversible capital inflows into the region occurred. Ultimately this proved to be a fateful mechanism as 'the combination of increased capital flows, credit expansion and exchange rate appreciation raised aggregate demand more rapidly than GDP, further increasing the current account deficit' (Jomo 2003: 14). When crisis enveloped Southeast Asia following the devaluation of the Thai Bhat massive capital flight occurred. This was a near-virtual process, enabled through digitally integrated markets which allowed investors to speculate on currencies remotely. For those who stood to make a loss from the devaluation of currencies, investors were able to virtually withdraw from the country by the click of a mouse. This seemingly detached process had very real and tangible effects in Malaysia. Giddens (2000) characterises this as 'turbo-capitalism'; a new technologically mediated form of capitalism increasingly characterised by its ruthless, instable nature built on logics of deregulation, removal of borders, whereby capital is free to move in and out of countries in a quest for profit.

According to Marxist-structuralist approaches the ability to transcend space and time are embedded in spatial infrastructures and driven by the economic imperatives of modern capitalism (Marx 1976; 1978; Harvey 1985; 1996). Telemediated globalisation has enabled new forms of capital accumulation to emerge that operate transnationally, through the circulation of capital beyond the traditional boundaries of the state. This is a dialectical process in which on the one hand capital is intensely globalising, orientated to the

continual acceleration of production times, overcoming geographical barriers to expand accumulation via 'the annihilation of space by time' with technologies. On the other;

> '...the impulsion to reduce the socially necessary, turnover time of capital (the moment of *deterritorialisation)* can only be pursued, through the production of relatively fixed and immobile configurations of territorial organisation that enable such accelerated movement (the moment of *reterritorialisation)*'
>
> (Brenner 1998a: 462).

Therefore, despite the global integration of economic functions it is the major international financial centres which still serves to satisfy the needs of capitalism that cannot be met through electronic communications (e.g. face to face communication, relationships of trust, body language). As capitalism expands geographically it inevitably needs to be fixed and embedded in produced space (Swyngedouw 1993). Historically urban places have provided this 'spatial fix' (Harvey 1989), however, contemporary neoliberal globalisation produces a networked economy of strategic nodes, hubs, and bypassed places structured according to the variable geometry of the network.

To suggest that the computerisation of finance will lead to the 'end of geography' (O' Brien 1992) is somewhat premature and technologically deterministic. Metaphors of a 'shrinking world', 'global village' et al only serve to mystify the relations between technology and space and say little about how places themselves have been transformed. This is not a straightforward process whereby certain activities have been *deterritorialised* from one scale, to be *reterritorialised* at another leading to the substitution of physical places by electronic cyberspaces. Nor is the assumption to be of nested spatial scales from the local (micro, slow) up to the global (macro, fast)

(Marston 2000; Marston et al. 2005). Rather, looking forward to the empirical enquiry my argument is twofold.

Firstly, that while the deterritorialisation of certain economic functions and activities has been made possible by ICTs (e.g. global markets, capital mobility, back-office offshoring) this has not led to the obliteration of (urban) place. For example as Thrift (1996), Sassen (2001b), and Beaverstock et al (2007) have shown a globally integrated financial system doesn't make place irrelevant. Rather, as Thrift argued in his study on the City of London, an increase in the intensity of digital forms of community requires increased face to face interactions, meaning, in his words, 'there will be no end of geography'. Therefore, as my empirical evidence suggests this is changing the form and composition of places as they are engineered, or re-orientated, by state, regional and urban policy makers for a world imagined, and partly executed, through more mobile economic flows, circuits, and exchanges (Chapters 4 and 5).

Secondly, as a consequence, place is not so much disappearing from view but being reconfigured via transnational connections, in a new 'networked sub-economy' (Sassen 2001c) rich in dynamic articulations of transnational mobility and local fixity. This is a relational sense of place containing multiple time-spaces that are often conflicting, and operating at juxtapositions to one another (Chapters 6 and 7). These processes create what Sassen (2001) termed a 'new networked sub-economy'.

> 'These networked sub-economies operating partly in actual space and partly in globe-spanning digital space cannot easily be contextualised in terms of their surroundings. Nor can the individual firm or markets. The orientation of this type of sub-economy is simultaneously towards itself and towards the global. The intensity of internal transactions of the sub-economy (whether global finance or cutting edge high-tech sectors) is such that it overrides all considerations of the broader locality or urban areas in which it exists...The

> new networked sub-economy occupies a strategic geography, partly deterritorialised, that cuts across borders and connects a variety of points across the globe. It occupies only a fraction of its "local" setting; its boundaries are not those of the city where it is partly located, nor those of the "neighbourhood". The sub-economy functions as an intermediary institutional order between the vast concentrations of material resources it needs when it hits the ground and the fact of its global span or cross-border geography. Its interlocutor is not the surrounding, the context, but the fact of the global'
>
> (Sassen 2001c: 414-415)

3.3.2. A New Strategic Geography: 'Sticky Places' in 'Slippery Space'

While transnational flows are being partly deterritorialised, they also become reterritorialised in specific places where local characteristics, infrastructural conditions, and human capital can add value for certain economic activities. This is not a case of simply 'scaling up' all socioeconomic activities to much celebrated global cities, rather as the thesis examines, a varied assortment of places are being relationally reconfigured as 'assemblages of more or less distanciated economic relations which will have different intensities at different locations' (Amin and Thrift 2002: 52). Paradoxically, ICT enabled distance transcendence and time-space compression has led to the salience of strategic places as economic locations for specific kinds of activities. Consequently, the global urban hierarchy is characterised by a multitude of emerging spatial units (e.g. global cities, research hubs, technology parks).

Adapting Markusen's (1996) typology of new industrial districts the thesis critically unpacks how Cyberjaya has been symbolically and materially positioned as a 'sticky place' within the global capitalist system. Markusen outlines the numerous strategies employed by national governments, local coalitions in order to create dynamic, innovative milieu to which high value-added industries and expert labour will stick. These include Marshallian new

industrial districts, hub and spoke models and satellite platforms for MNC operations. In reviewing these strategies she asks:

> 'In a world of dramatically improved communications systems and corporations that are increasingly mobile internationally, it is puzzling why certain places are able to sustain their attractiveness to both capital and labour.'
>
> (Markusen 1996: 293)

'Sticky places' are embedded in the urban fabric as vast accumulations of networked infrastructures, physical and human capital concentrated in specific places. As global economic space becomes increasingly volatile, there are still strategic sites that retain (e.g. global cities), or seek to engineer through entrepreneurial urban planning practices (e.g. high-tech zones), '*sticky-ness*'. These 'command and control' (Sassen 2001b) centres drive global flows in the 'new economy' through a variety of mechanisms including stock exchanges (London, New York), R&D centres (Silicon Valley, Cambridge), media hubs (Hollywood, Soho), and software hubs (Bangalore). These are places where local skills, transport and logistics linkages, socio-cultural factors, telecommunications capacities, makes high value-added operations like R&D and corporate headquarters reluctant to leave. Technological connectivity is complemented by social connectivity whereby the spatial proximity of certain industries promotes networking, trust, and the sharing of ideas.

The classic 'sticky places' have traditionally been global cities that have become 'command and control' centres for the global capitalist system due to a wide range of social, cultural, political, economic, infrastructural advantages that have been historically embedded over centuries. Building on Wallerstein's world systems model, the Global and World Cities (GaWC) research group at Loughborough University has been influential in theorising a hierarchy of global cities (Alpha, Beta and Gamma) and the rise of global

urban networks (Beaverstock et al. 1999; Beaverstock et al. 2002; Taylor 2003a). In a similar vein to the work done by Sassen (1999b; 2001b; 2002), they have identified the inter-city relations that occur between the top tier (Alpha) cities of the global economy. Kuala Lumpur is one of a number of aspiring cities striving to become a global city (Olds and Wai-Chung Yeung 2004). The Malaysian state has deployed vast resources to compete with other ASEAN capitals (e.g. Singapore, Jakarta, Manila, and Bangkok) and re-orientate the city towards the global economy at the expense of local linkages (Morshidi and Suriati 1999; Morshidi 2000).

'Sticky places' cannot be contextualised in terms of their immediate surroundings because they are electronically, and often materially 'splintered' (Graham and Marvin 2001), from their hinterlands. 'Sticky places' attract clusters of related activities (e.g. I.T and multimedia in Silicon Valley), forming networked sub-economies, which are more globally linked to other 'sticky places' than to the nation state in which they are situated. For example, Saxenian (1994; 2006) argues, Silicon Valley has retained its competitive advantage by maintaining deep transnational connections to I.T. hubs elsewhere (e.g. Hsinchu, Taiwan) via migrant communities of entrepreneurs constructing technological and financial bridges between distant regional economies. In another case, the financial centres of the City of London, or Frankfurt are more closely entwined with one another than to their physical neighbourhoods and hinterlands. They become tied together through intense forms of digital communications which transcend the national borders of the state, bypassing the localities in between, meaning that localities are geographically proximate, but relationally distant.

Networked infrastructures become the 'glue' that binds geographically disparate places together to create the impression of an integrated economy, as seen in Sassen's (2001b) research on the transnational connections between New York, London, and Tokyo. In the case of global cities their sub-

economies display a dominant orientation to one another, rather than to their surrounding national spaces. The process of global integration running cheek by jowl with local fragmentation has historical antecedents in the transnational colonial economy outlined by King (1976; 1991). 'Sticky places' therefore create what Castells (1996) terms 'global bubbles', or Easterling (2005) 'spatial products', in that often they produce a globally linked, locally disconnected 'splintered urbanism' (Graham and Marvin 2001) where investment and infrastructure is channelled into fortified landscapes for techno-elites and withdrawn from surrounding areas. As Graham and Marvin (2001) note, highlighting London's financial district as an exemplar, unparalleled global connectivity is often combined with massive local disconnection. This is a theme explored later via empirical material in reference to Cyberjaya's 'global aspirations'.

Therefore, as national and urban telecommunications infrastructures look to global interaction they becomes systems that 'link nodes together into networks whilst using such tunnel effects to exclude and bypass much of the intervening space, excluding them, in turn, from accessing networks' (Graham et al. 1997). These telecommunications represent vast sunken infrastructures in themselves in the form of servers, cabling, power systems which support and facilitate the time-space mobilities of global capitalism. In the competition for creating 'sticky places' in national territories the race to provide the best infrastructure is imperative; whereby competitiveness is determined by bandwidth, infrastructure reliability, and the provision of vast data farms to support the 'new economy'. These strategic sites are actually produced through very deliberate practices that are not the culmination of random chance but rather a mixture of neoliberal economic policies (e.g. deregulation) and urban planning to create 'premium network spaces' (Graham 2000).

While global economic flows are increasingly mobile, 'neoliberal globalisation' actually demands these strategic territorial enclave economies for capital investment (i.e. mobility require fixity). Moreover, in the battle to win capital the unique characteristics of physical places is becoming crucially important. In this light the familiar vision of neoliberal globalisation as an 'economic tsunami that is gathering force across the planet, pummelling each country in its path' (Ong 2007: 3) can be contested. Rather, this mode of spatial restructuring can be seen in the context of the 'next round' of neoliberal globalisation.

> 'From this perspective, the current round of globalisation can be interpreted as a multidimensional process of re-scaling in which the scalar organisation of both cities and states is being reterritorialised in the conflictual search for 'glocal' scalar fixes.'
>
> (Brenner 1998a: 462)

The scalar argument here is that while capitalism seeks to annihilate space it does so through investment in, and control over, certain physical places, what Jessop (1999; 2004) calls 'spatio-temporal fixes'. So while 'time-space compression' has become a reality, it has not occurred at the expense or eradication of actual urban places, as imagined in the debates summarised in the previous section. In turn, rather than being eradicated, the uniqueness of place becomes ever more important as state planners promote urban nodes as sites for what Swyngedouw (1992; 1997) terms strategic 'glocalisation' which he defined as the 'combined processes of globalisation and local-territorial reconfiguration'. This Marxist reading of globalisation argues that capitalism is constantly restless in its desire to circulate capital, and finds new means through territorial restructuring to do so. Thus according to Sassen (2001b) the latest round of restructuring has led to the dominance of core global cities as drivers of capital accumulation in the finance industry.

According to this hypothesis, place, is restructured in order to make way for a new round of economic growth. This is an inherently uneven process, creating multiple disparities between those milieux which are desirable for capital, and those that are not. Therefore, contemporary 'informationalised capitalism' has merely exacerbated inequalities between those 'wired', 'intelligent', or 'siliconised' global hubs, and those that remain on the periphery of the 'friction free' word. This has been magnified as states have 'unbundled' their networked infrastructures and opened up spaces of the state for global development. Foreign capital has quickly moved in to colonise space; often making use of local financial incentives in the form of tax relief. Later empirical chapters examine this process in more detail, arguing that behind the state led rhetoric of creating an inclusive 'intelligent' high-tech development, Cyberjaya has become little more than a disconnected, foreign direct investment enclave characteristic of emerging neoliberal modernities in Southeast Asia.

An overview of the role of the state vis-à-vis neoliberalism requires some context here. Both Brenner's and Jessop's work draw from theories by Lefebvre (1976; 1991) and Harvey (1982; 1985) on state re-scaling through reterritorialisation as it applies to different regimes of global capital accumulation. Their main concern has been to dissect the tension between motion and fixity in capital's desire to enhance its spatial mobility by diminishing its place dependency versus 'states' attempts to fix capital within their territories through the provision of immobile, space specific externalities that either cannot be found elsewhere or cannot be abandoned without considerable devalorisation costs to capital' (Jessop and Sum 2000: 2295). Lefebvre argued that since the late 19th century the dynamic of deterritorialisation and reterritorialisation has occurred through a wide range of scalar configurations each produced through an intermeshing of urban networks and state territorial structures at a given moment in the historical round of capitalist expansion.

Prior to the 1970s this was done within the confines of the state, however with the spread of neoliberal economics and the rescaling of economic processes to the global scale. Increasingly the state has been seen as under the influence of these flows, rather than controlling them. Harvey (1982; 1985; 1989) observes that for capitalism to overcome space, new forms of spatial organisation were needed whereby 'there is a perpetual struggle in which capital builds a physical landscape appropriate to its own conditions at a particular moment in time, only to have to destroy it at a subsequent point in time'. Therefore capitalist expansion is captured in the constant search for 'spatial fixes', as immobile socio-territorial configurations, within which expanded capital accumulation can be generated.

As the doctrine of neoliberalism advances through its policies of deregulation, privatisation and the 'rolling back' of the state, urban economies must become competitive in order to survive. With nation states undergoing a partial 'hollowing out' process as an economic unit in our now 'borderless world' (Ohmae 1995) other spatial-scalar units are mobilised for economic activity by policy makers, and national governments; often encouraged by an array of global consultancy firms (Chapters 4 and 5).

> 'It is in this context that we see a rescaling of what are the strategic territories that articulate the new system. With the partial unbundling or at least weakening of the national as a spatial unit due to privatisation and deregulation and the associated strengthening of globalisation, come conditions for the ascendance of other spatial units or scales.'
>
> (Sassen 2001b: 105)

States are therefore altering strategies of territorial development to prepare sub-national 'spatial units' as competitive nodes in the international economy through 'glocalisation' strategies. As Brenner and Theodore (2002) observe this has led to the creation of privatised spaces for corporate consumption

within large-scale mega-projects designed to attract foreign investment and reconfigure local land-use patterns. Cyberjaya is a classic example of this, functioning as a sub-national, extra-territorial, neoliberal economic space. The Malaysian state, like many others, is rushing to restructure the urban hierarchy of the nation to enhance its "global competitiveness". The multi-scalar spatial restructuring of urban economies vis-à-vis globalisation provides the backdrop for my analysis, though the thesis draws more directly upon relational approaches explored later in the chapter.

To summarise, 'sticky places' are conceptualised as the 'command and control' centres for the global economy and include global cities, research and development hubs, media centres etc. As spatial infrastructure is embedded within the global capitalist system a complex terrain of winners and losers inevitably accompanies the production of neoliberal place-making strategies. Juxtaposed to 'sticky places' are a range of new 'slippery spaces' including back-office hubs, call centres, offshore data centres, logistics enclaves that operate on the periphery of global system. These 'slippery spaces' constitute a networked sub-economy of low value-added offshore service functions for the global economy. Contrary to predictions of the 'end of geography' the 'new economy' is increasingly defined by a stark spatial division of labour. Notably, it has been back-office functions - with their *codified* knowledge processes - that have been moved 'offshore' to low cost locations found in the developing word.

'Slippery spaces' are often 'self-contained, glocally orientated enclaves, surrounded by social and economic spaces from which it seems increasingly disconnected' (Graham and Marvin 2001: 376). The growth of 'slippery spaces' been influenced by the reshaping of the 'production cost map' (Wilson 1998) of: (a) firms seeking low cost labour and work environments; (b) public sector enhancement of infrastructure quality and capacity at strategic locations within the nation state. Allied to these factors,

improvements in telecommunications enabled the spatial separation of front-office and back-office activities in MNCs with the latter being 'unbundled' and 'reterritorialised' offshore because they require little direct interaction with other parts of the firm.

Mirroring the offshoring of manufacturing jobs for the global assembly line, back-office operations have been relocated to low cost, politically stable countries (e.g. India, the Philippines, Malaysia) in deregulated, privatised 'high-tech' enclaves underwritten by national governments (e.g. Penang's Enterprise Zone).[27] Often these economic functions have been decentralised to peripheral locations under the auspices of the 'new international division labour' (Frobel 1980). The success of these areas has not led to economic or technological independence via plugging into specific global circuits. Back-offices have a different position in the global assembly line as emerging transnational service hubs (e.g. Bangalore, Cyberjaya) in managing accounts, servicing customers, and processing data on a round-the-clock basis for the back-offices of major MNCs. The offshoring of these operations was not the product of a need to improve customer service per se, nor a response to customer wishes but driven by the imperatives of capital accumulation and profit maximisation. Back-office work practices are often seen as being of a low technological order: low skilled, low paid, and low value-added compared to the occupational lifestyles of the 'transnational elites' identified by Sklair (2000). As a result back-office staff have been labelled as 'cyber coolies' or an 'offshore proletariat', undertaking work that is 'mind numbing and de-skilling' (Stanworth 1998; Gaerlan 2004; Gurumurthy 2004).

The development of 'slippery spaces' has been underpinned by neoliberal policies of customising local spaces and opening them up for the global

[27] Penang is a major global hub for the electronics production industry, though the industry is almost exclusively dominated by MNCs. For example, the U.S. company Seagate produces 80% of its worldwide manufacturing output in Penang (Sussmann 1998).

economy. In this context, the aim of the thesis is to examine how Cyberjaya has been sold as a new 'global hub', which is an extremely 'sticky space' within the global capitalist system – i.e. where local skills, infrastructure, fiscal incentives makes R&D and corporate headquarters reluctant to leave. However, behind the giant, messianic, facade, it has become little more than an urban zone of disconnected outsourcing spaces and low value-added activities - what Markusen calls 'slippery space'. Through empirical material, this slippy-ness is approached in several ways: *temporally* through everyday work practices which follow the hegemonic beat of time zones elsewhere; *economically*, through spatial restructuring within the 'new international division of labour'; *physically* through geographies of urban splintering and disconnection; and *politically* through state 'roll-back' and emerging neoliberal modernities in the region. While Cyberjaya has been successful in attracting specific kinds of back-office operations, these operations are not self-sustaining and require continuous subsidising by the state via tax breaks, provision of low rents, and low cost high capacity infrastructure provision. Furthermore, these industries occupy a fragile position and are susceptible to reterrorialisation in other places as political economic conditions change (i.e. when a new location becomes more cost-efficient). Such places are 'slippery' as they are susceptible to economic fluctuations of labour, location costs and the vagaries of the increasingly volatile global market.

As a result of the deregulation and privatisation of domestic spaces by international capital, MNCs have become the dominant players in these urban enclaves. These deregulated national spaces are actively complicit in what Greider (1997) labels a 'global jobs auction' where MNCs are, in effect, conducting a peripatetic global jobs competition, awarding shares of production to the countries which can offer the most inviting locational incentives. The bidding war for employment opportunities via tax incentives and 'corporate retention' kick-backs has short-term advantages but also

broader long-term uncertainties. While government deregulation policies have enabled the country to access foreign capital it has done so at the reduced control over, and risky exposure, to the kind of financial risks that precipitated the Asian Financial Crisis (Beeson 1998). Often these policies have occurred despite, rather than because of national policy makers in Malaysia (like elsewhere in Southeast Asia) due to a complex mix of domestic forces and external factors promoting financial liberalisation.

Though the quote below borders on hyperbole, it emphasises the potentially grave consequences for national policy makers who roll back their infrastructures without due consideration. 'Sticky place' development in the form of urban mega-projects dressed in the rhetoric of embracing a nascent 'information society', or 'new economy' about to take off, produces neoliberal forms of modernity in Southeast Asia manifest in a fragmented urban geography of foreign direct investment enclaves, deregulated zones, and fortified technology parks for MNCs.

> 'Electronic communication and financial flows at the speed of light have freed corporations from space and afforded them a global power that is rooted in their deterritorialisation. Unencumbered by locality and territorial constraints, TNCs [Transnational Corporations] are disconnected from the lives of their immobile employees and the social needs of their host countries. Now-here and no-where become interchangeable. Money is both the lifeline and the exclusive measure of corporate value. With locality and place becoming increasingly irrelevant, the prices of labour, tax breaks and other relocation enticements are becoming the prime determinants of physical location.'
>
> (Adam 2002: 21)

At the bottom end of the production chain, the principle concern is not generating innovation through genuine worker participation, but primarily low cost production stability, and control. Therefore, when state power is

weakened, global networks are able to reach inside the national territory and directly impact upon the lives of the disempowered local citizens (Lawson 2002). Under neoliberalism citizens are divided according to their value for capitalism, often according to gender, ethnicity, and human capital skills (Ong 2000a; 2000b). This speaks to Massey's (1993) power-geometry of time-space compression where different social groups and individuals are positioned in very distinct ways in relations to the flows and connections of a globalising world (Chapter 7). The empirical analysis argues against an overtly deterministic theorisation whereby globalised economic processes operate in some 'rarefied stratosphere' by attending to how these processes are embedded in and socially reproduced in specific places.

3.4. Inscribing High-Tech Utopia: Technopole Planning Practices

National governments, policy makers, and regional planners across the world have been influenced by the hyperbolic discourses of the 'information society' and 'new economy' to develop technopoles as aspiring 'sticky places' within the global economy. Technopoles have been designed to perform three main functions. Firstly, technopoles are symbolically positioned by states to tap into the 'new economy' and creating a new 'global hub' that will link up with a transnational 'research and development' community. Secondly, they are deliberately planned 'sticky places' for the high-tech economy; locales where high value tacit knowledge can be produced in the global economic system. Thirdly, technopoles function as new state spaces in the developing world intended as motors of development and modernisation. They are intended to symbolise national 'arrival' in the 'information age' and an imagined 'new economy'.

Technopoles are envisaged as a 'new spatial unit' (Sassen 1999b) or 'spatial product' (Easterling 2005), and throughout the world geographically delimited enclaves have been mobilised to embody attempts by state to

control the processes of economic globalisation and competition. Technopoles have been promoted and planned by central, regional or local governments as customised new industrial complexes for high-tech. Using the label of 'technoburbs', Fishman (1987) defined technopoles as a peripheral zone that has emerged as a viable socioeconomic unit on the outskirts of all major urban centres. Within these developments residents increasingly look to their immediate surroundings rather than the city for their employment needs. Each project attempts to replicate the Silicon Valley experience and lure advanced technological laboratories and high-tech production facilities from the urban core to the periphery. Silicon Valley was a world first, and as the original global I.T. technopole, was imbued with numerous myths about how investment in technopole planning could accelerate regional or national growth. Despite there being no clear formula for creating a high-tech industrial space, Cyberjaya is one of a long line of real estate projects that attempt to become a successful technopole, and replicate the Silicon Valley "model" (Chapter 6).

The proliferation of technopole planning strategies has led to intense city versus city competition to try and reterritorialise high value-added production activities for the I.T. economy. The climate of free market neoliberalism has increased global competitiveness between technopoles in what is perceived to be a 'zero-sum' game of economic survival. As Tickell and Peck (2001) argue, this is part of a broader move towards a 'growth-first' approach to urban development which is entrepreneurial and pro-active in its quest to fix capital. An alliance of corporate and political objectives has given rise to a utopian belief in technopole planning within a neoliberalist framework of tax-breaks, deregulation to fix global capital in local places.

> 'The perception of the force of globalisation exhorts the state to focus on local space in an effort to provide a real and symbolic node, a state-of-the-art command and control centre, to "hook up" to the global economy,

> thereby theoretically improving city, regional, and national comparative advantage in the global sense.'
>
> (Olds 2001: 33)

Prior to the Financial Crisis 1997-1998, the adoption of neoliberal policies was heralded as key contributing factor to the World Bank's (1993) observation of an "Asian Miracle". These financial policies represent a belief in the efficacy of the markets for achieving developmental catch up (Burkett and Hart Landsberg 2003). During this time neoliberals were extolling the virtues of their free market policies, and this in turn promoted a previously unseen Southeast Asian openness to international trade and investment. Notably Kuala Lumpur in the 1990s, under the direction Prime Minister Mahathir, sought to reposition itself as a global city through a massive infrastructural development programme to attract foreign direct investment.

In a broader context, such strategies represent a shift from urban managerialism to entrepreneurialism - as documented by Harvey (1989) - leading to the construction of new real estate projects geared towards making cities more attractive for investment. Massive infrastructural investment is used to 're-orientate the international imagery' (Olds 1995: 1713) of cities for attracting foreign investment. These policies have been legitimated by a number of multinational planning, design and business consultancy firms that have promoted global city discourse and a set of criteria that is constitutive of 'world-city-ness' to which local planners aspire (Chapter 5).

In East and Southeast Asia states have been active players in "selling" local conditions via urban entrepreneurial place promotion strategies to attract inward investment according to neoliberal policies (e.g. Thailand, Indonesia, and Malaysia). Governance has become increasingly entrepreneurial whereby the state assumes the burden for financial risk to simulate growth

(e.g. public-private partnerships). In the scramble to provide a 'fixing point' (Harvey 1982) for increasingly mobile flows local actors have resorted to hyped place marketing strategies; to the point where excessive urban boosterism far exceeds any underlying socioeconomic changes. Entrepreneurial strategies are reflexive, and self-consciously mobilised by states to imagine, promote themselves as knowledge-intensive, globally competitive, and world-class (Doel and Hubbard 2002).

As a result, 'peripheral' areas have been re-branded under the auspices of a new high-tech driven stage of development in a putative 'information age' seen to sweep up everything in its path. Although these products may be 'dressed' differently they all contain a familiar in-built logic. The goal is to 'sex-up' mundane industrial districts, or faceless offshore shared services and outsourcing (SSO)[28] industrial parks via the language of being 'wired', 'plugged-in', or 'cyber-', 'silicon-' space to create the illusion of cutting edge 'sticky-ness' in the 'information age'. Each technopole - Cyberjaya included - makes equally grand claims in self-promotion materials about offering the most cutting edge infrastructures, a luxury live/work environment, and fortified urbanism to support its goal of becoming a regional command and control centre for the information economy.

Technopole development projects have been most actively sought in Asia-Pacific where projects like Japan's 'Technopolis' program, Malaysia's 'Multimedia Super Corridor', Hong Kong's 'Cyberport' and Singapore's 'Intelligent Island' have reframed national space for a world supposedly imagined, processed and executed through high-technology. This represents both an ideological and material investment in the (neoliberal) discourse of globalisation. Jessop (1999) highlights four trends: the introduction of new live/work spaces within the city; new methods of place production to create a

[28] SSO is sometimes referred to as Business Process Outsourcing (BPO).

competitive advantage (e.g. infrastructural); repositioning of urban places to new markets; and the refiguring of the urban hierarchy for global appeal.

Multiple strategies have been employed by different states in the region to imagine high-tech urban futures. Intelligent cities, cyber-districts, science cities, technology parks have been conceived as 'wired', interconnected urban nodes conducive for innovation, foreign direct investment and the 'new economy'. Technopole projects are mobilised in different ways depending on national policy contexts. Firstly, Japan's *technopolis* is a classic example of a large, state led technopole development project. Under the direction of MITI (Japan's Ministry of International Trade and Industry) the programme created a whole series of 'science cities' in the country's peripheral areas to promote new technology. MITI's goal was to create a whole range of innovative milieu that would concentrate public resources and funding with goal of creating a new range of R&D centres across the nation.[29]

Secondly, at the urban scale, *technology parks* aim to spur industrial growth through attracting high-tech firms to a privileged enclave within or just outside the city. It is expected that once these firms come they will create jobs and spur production. These parks function as growth poles intended to create a critical mass of firms that will lead to self-sustained economic growth. Often these parks have manifested in the Asia-Pacific as special economic zones populated by foreign corporations (e.g. Penang Cybercity, Hong Kong Cyberport[30]).

[29] Technopolis is in keeping with Japan's role as a developmental state whereby capitalism is planned and directed by government bureaucrats, in close association with conglomerate corporations in the Japanese economy.

[30] The $2 billion project is planned by the state to become the regional home for foreign ICT companies and also for local companies. It is built on a 24 hectare parcel of land at Telegraph Bay on the island to house around 100 companies in a specific cyber district. The Cyberport was promoted as Hong Kong's response to the 'new economy' in the wake of a government report in 1999 that highlighted the need to build a technopole to house I.T. and multimedia sectors.

Thirdly, *science cities* are built by governments aimed at generating scientific excellence and synergistic research activities by concentrating a critical mass of research organisations and scientists within a high quality urban space. Science cities differ from technology parks due to their focus on science and research goals rather than productive output. For example, Singapore Science Park or Japan's Tsukuba Science City are symbolic of their state's commitment to science and technology. Often they are based on the spatial logic of utopian separation of campus architecture whereby isolating a community of researchers from the rest of society is seen to produce a potentially more creative environment (*think* green, eco-friendly, suburban setting).

This is exactly the kind of urbanism that Cyberjaya strives to create with its garden city design principles and provisions for green spaces, lakes, and parkland geared towards creating an ideal environment conducive to creativity (Chapter 5). These environments create privileged, physically excluded (often gated) spaces that imagine themselves as spatial vacuums separated from the potentially disruptive influences of societal engagement. The isolation has the dual purpose of spurring the 'cohesion of intellectual networks that will support the emergence, consolidation, reproduction of a scientific milieu, with its own set of values and mechanisms to promote the collective advancement of scientific enquiry' (Castells and Hall 1994: 39). However, these property led developments (Cyberjaya, Hong Kong Teleport included) produce a splintering effect between privatised corporate spaces on the *inside*, versus everyone else on the *outside*. Strategies for creating 'innovative spaces' cannot be universalised through a specific national territory, but must selectively target specific populations and people (Ong 2007). This requires a large degree of government support from developmental states where high levels of public expenditure are needed for infrastructure provisions

Technopole planners assume the deliberate concentration of infrastructure, people and buildings will create a 'milieu of innovation' (Castells and Hall 1994). In these terms there is assumed to be a direct causal relationship between spatial proximity and the capacity to innovate. The thesis does not seek to evaluate these claims but rather approaches them critically as part of the ideological baggage of technopole planning practice. For instance, research on agglomeration economies (Rosenfeld 1996; Beaverstock et al. 2007), spatial clustering (Porter 1998), industrial districts (Scott 1988), urban and regional economics (Storper and Walker 1989; Malecki 2000) has argued that the creation of knowledge is impacted by the spatial interaction of technology parks, universities, and companies in local economies. Often studies have emphasised - following the Silicon Valley model - the importance of universities as producers of basic research and also creating human capital in the form of highly skilled labour. The argument follows that when knowledge is diffuse and tacit, interactions and exchange are dependent upon spatial proximity, often within a localised cluster (Bathelt et al. 2004). Tacit knowledge is 'sticky' in geographical space because its acquisition can occur only through social interaction (observation, demonstration, imitation, correction, repetition, etc), which is greatly aided by geographical proximity especially when such proximity is coupled with the contextual homogeneity or `common culture' that exists within agglomerations (Beaverstock et al. 2007). Therefore, such theories assume a link between geographical concentration of production and innovation and superior economic performance.

However, the relationship between spatial proximity of strategic activities and the creation of an innovative milieu is contested, and in some studies they are shown to be mutually exclusive (Florax 1992; Malmberg and Maskell 2002). Such theories have sought to draw generalised patterns from a limited number of case studies, or specific sets of data. As Malmberg and Maskell (2002: 429) argue 'the abundance of theoretical concepts and

explanations stands in sharp contrast with the general lack of work aimed at validating these mechanisms empirically'. The thesis approaches the above 'clustering' discourses critically and addresses their mobilisation in technologically and economically deterministic technopole planning practices.

3.5. Technological Determinism and its Discontents

While the MSC project is underpinned by the rationale for constructing a new global technopole, it also seeks to create a new utopian urban space within Malaysia. Cyberjaya is the flagship for the broader MSC project which self-consciously attempts to articulate a national conception of the 'information society'. The development of intelligent cities is bound up with the 'imaginative (re)construction of Malaysian citizen-subjects as much as with the physical construction of new high-tech space' (Bunnell 2004: 91). The thesis observes how this process of technopole planning has been conceived as a linear process that is guilty of both ecological and technological determinism. The section examines each in turn.

Firstly, Cyberjaya has been conceived as a new state space and iconographic exemplar of national arrival in the 'information age'. The 'intelligent city' has been planned by the state in collaboration with multinational planning and design firms to mobilise certain predetermined technological and ecological effects on the citizen-subjects which inhabit it. Drawing upon modernist epistemologies, the planning of Cyberjaya as garden city was envisaged to create a rational, ordered environment conducive to creative work practices and high value-added research activities in the 'new economy'. The design principles incorporated man, nature, and technology in a harmonious whole in the hope it would lead to moral reform, and in turn, the evolutionary transformation of society. The 'intelligent city' therefore was designed as an urban 'exemplar' which could

be marketed around the world as a global 'test bed' for technopole development and transplanted into to other states in Malaysia to facilitate a state led transition from an industrial to informational economy by 2020. Modernist planning histories and the circuits of imitation and exemplars through which specific planning 'models' are 'exported' (Nasr and Volait 2003) is explored in more detail in Chapter 5.

Secondly, ICTs are technologically determined in the MSC development plans to enable economic and social development by 'leapfrogging'. There is a wide ranging critique concerning the role of technology in development discourses. As mentioned earlier, the association of technological development with national progress is rooted in modernisation theories (Rostow 1960). However, as Howard (2007) has examined with his study of technological change in 200 countries over a ten year period (1995-2005) cases of successful 'leapfrogging' are virtually non-existent. Therefore, the 'information society' is bound up with what Ferguson (1999: 13) calls the 'mythology of modernisation' - a mythology anchored by narratives of 'linear progressions and optimistic teleologies'. This is based on the assumption that: (1) technology is a driver of a new modernity; and (2) that this form of modernity is universally achievable and appropriate.

As Escobar (1995) has argued, development discourse is seen in terms of a proposed transition from a 'non-Western' development state to a 'Western' model of national modernity. The dual ideologies of capitalism and modernity are given primacy in a development script that reads: *"there is no alternative".* This is exemplified in current debates about the 'information society' which rely on nakedly evolutionist narratives that reduce a complex and differentiated global political-economy to a race for a very specific type of economic and political progress (Gibson-Graham 1996). This rings true with the developmental catch up rhetoric of Mahathir's notion of

'leapfrogging' towards a new 'information society' that presupposes that such a leap is: (a) possible and; (b) desirable (Chapter 4).

With the growth of the internet, information technologies are increasingly tied into the ideologies of modernisation and globalisation. This is what Uimonen (2001) calls the 'information development paradigm' that has now become a hegemonic form of development praxis. This is based on the concept of linear progression, that technologies will have certain predicted impacts in a pre-given development paradigm. As discussed, this has led numerous aspiring-entrepreneurial states in Southeast Asia to construct technopoles as a means of utilising the perceived transformative effects of technologies (while ignoring the negative outcomes). The MSC follows a similar logic and seeks to mobilise, on a national scale an 'information society' through the diffusion of ICTs into everyday life.

Cyberjaya performs the role of new state space emblematic of Malaysia's coming high-tech modernity and a space technologically determined to produce specific effects on the behaviour of citizens who inhabit it. By embracing ICTs from the home, to the neighbourhood, to the workplace, it is imagined Cyberjaya will become a new urban utopia. In turn, Cyberjaya will become an exemplary space to be replicated elsewhere as other cybercities are built in Malaysia according to 'Phase 2' of the MSC development plans. However, as later empirical analysis demonstrates, 'on the ground' there is a blurring of these utopian objectives as Cyberjaya has developed as a privatised space for MNCs and affluent groups able to afford the high cost of living. Technopole planning has been mobilised in four technologically deterministic ways.

Firstly, Cyberjaya seeks to become a globally central technopole location by the construction of networked technological infrastructures (e.g. high-bandwidth fibre, redundancies on power) to attract companies to a newly

"Siliconised" Malaysia. Accordingly this will happen in a linear, unproblematic manner in what Thrift (1996: 1470) has labelled 'the logic of historical inevitability'. However, as Chapters 6 and 7 discuss, such a perspective assumes that these networked infrastructures operate in a political vacuum and ignores the topographies of power and control that operate over and through them.

Secondly, technology is seen to be the driver of the Malaysian progression to an imagined 'information society', based on certain assumptions about how people will use these technologies. As a result, ICTs are seen as a mechanism for creating a utopian urban vision based on the principles of unlimited flow of information, new possibilities for human interaction, and the expediency of always on, powered up intelligent living. This presents an overly simplistic view of development that sees ICT as a means of catch up.

Post-development critics (Escobar 1995; Rahnema and Bawtree 1997; Sachs 2001) meanwhile have sought to argue against essentialist and over generalised views of technology as a "miracle cure" for the development question. Sardar (1996) goes further in his critique arguing that underneath the glossy exterior of informationalised 'friction free' capitalism it is little more than an exercise in 'cybercolonialism'. In this sense high-tech utopianism functions as a spatial camouflage to encourage states to deregulate, privatise, roll back politico-legal infrastructures to facilitate new neoliberal spaces of production. The thesis later explores how this spatial camouflage merely serves to perpetuate new forms of economic dependency from the developing world to the first and also ensure Malaysian political vested interests are maintained.

Thirdly, deterritorialisation and its post-urban fantasies ignore global urbanisation trends and the geographical distribution of ICTs. As Graham (2004b: 12) argues, it is still the traditional urban cores (and not the wannabe

'sticky places') that are the 'dominant hubs which shape and configure all aspects of global ICT infrastructure investment and global Internet and telephone traffic'. Furthermore, allied with soft infrastructures (e.g. recreation, arts, cultures, history, fine dining etc) it is the historical global centres that are still the most 'sticky' places for global capitalism (*think* London, New York, Tokyo, Paris). These historic world cities with requisite capital, infrastructure, and human capital contrast with to those new *tabula rasa* technopole spaces which seek to manufacture a new global centrality from scratch.

As Jessop (2000: 6) observes, there is also a temporal dimension at play evident in a major contradiction between the short-term economic calculation of constructing a technopole to produce instant effects and the 'long-term dynamic of 'real competition' rooted in resources (skills, trust, heightened reflexivity, collective mastery of techniques, economies of agglomeration and size) that may take years to create, stabilise, and reproduce'. The most dynamic places are those which are socially embedded over time, whereby collective learning has evolved over centuries, not years. Therefore, the logic of replicating 'paradigmatic cities' (Amin and Graham 1997) to become exemplary new 'sticky places' is a seductive myth.

Fourthly, contemporary debates present a historically limited understanding of the 'information society'. It assumes that previous centuries or technological epochs were somehow 'non-informational' or knowledge redundant. As Tarr (1987), de Sola Pool (1977) and Winston (1998) have demonstrated, by tracing the evolutionary history of ICTs one can see that this is not the case. Individuals have exchanged information using machines since the early telegraph, often resulting in an increased demand for face to face contact in the city. While the current round of globalisation does represent a qualitatively new phase in terms of intensity, it is important to recognise that these processes do in fact have historical precursors. They

are not part of some (as the Malaysian government has conceptualised) "giant quantum leap" into an as yet unknown new 'information age'. Instead the 'information society' can be seen as a long, evolutionary process rather than one characterised by shock, wave or revolution (Graham 1997a; 1997b; 1998).

Rather than accepting the ideological versions of the 'information society', or the dystopian and utopian imageries of the 'cybercity' as its consequence, this research calls for a more nuanced analysis of how technological change articulates with urban restructuring processes, and to what effects - e.g. differentiating macro-scale socioeconomic transformations vis-à-vis the intensification of everyday experiences. The global space economy brought into being through high-technology is not simply 'given' but can rather be re-thought as a precarious and complex achievement. Often overlooked in this 'globalisation talk' is the elementary notion that despite the undeniably transnational nature of the high-tech 'new economy', it is still constituted by, and in some*place,* by specific people engaged in specific activities in specific locations around the planet (McKay 2006). Therefore, in this relational approach 'the commonplace activities of everyday life are not residual products of globalisation but are themselves formative of the global' (Doel and Hubbard 2002: 358).

A critical, empirically grounded, approach to Malaysia's putative 'information society' seeks to avoid exaggerated forms of 'highway hype', techno-babble' or 'digital dreaming' (Thrift 1996: 1466) by turning to the subtle interrelations between the urban politics of technopole planning practices, place marketing, and everyday geographies that tend to be glossed over in such hyperbolic discourse. A 'view from below' will examine everyday milieu and allow me to expose the counter-hegemonic narratives emerging beneath the figurative cloud of Malaysia's giant leap into the technological unknown.

3.6. Making a Space for Counter-Hegemonic Narratives

This thesis critiques the technologically deterministic logic of technopole planning practices couched in high-tech utopian discourses of the 'information society' and 'new economy'. The thesis emerges in response to the overwhelming sense from writings on the 'new economy' that 'culture is subordinate to the logic of inevitable economic and technological changes' (Mee 1998: 228). The project challenges a linear narrative towards Malaysian high-tech modernity documented in a plethora of uncritical perspectives on MSC-Cyberjaya (Arif and Chaun 1998; Mazelan 1999; Ramasamy et al. 2002; Tyndall 2002; Taylor 2003b) which pander to the rhetoric of a coming Malaysian 'information age' while obfuscating its political implications. Avoiding such sycophantism, the thesis addresses how technopole planning practices were mobilised in a specific place at a specific time, but moreover the multiple disjunctures that are evident in this mobilisation. The section briefly outlines an alternative conceptual framework, thinking about technopoles not as they are planned from above to engage with some utopian 'information society'; but rather how they are experience from below through 'the everyday'.

Firstly, the thesis highlights the experience of place as it is transformed via technopole planning practices. As the 'globalisation craze' hit, bringing with it a new wave of anti-urban futurology, place was too often written out of analysis and discarded as something too small, too localised, therefore, academically insignificant. Place and the spatiality of the local were rejected by Harvey (1990), Jameson (1992) as a diversion, or as Massey critiques, a use of place as being 'almost necessarily reactionary' (Massey 1993: 63). Such self-generative meta-narratives prophesised a new technological epoch without ever devoting detailed analysis, or empirical research, to how new information and communications technologies resonated with the everyday places we inhabit: what did they do to people's lives? How were they reconfiguring urban spaces, life, spatial or temporal modes? How are

such experiences felt locally? What are its politics? It is only by attending to how these processes are experienced in specific time-space contexts can we find analytical points of friction.

My approach follows calls of recent work in sociology (Latour 2004; Urry 2004) for scholars to work more closely with the objects of their study and to be sensitive to the locality in which these relations are embedded. Though often overlooked in globalist discourses place always has been, and will continue to be important to any form of geographical analysis.

> 'Yet the fact remains that place continues to be important in the lives of many people, perhaps, most, if we understand place the experience of a particular location with some measure of groundedness (however unstable), sense of boundaries (however, permeable), and connection to everyday life, even if its identity is constructed, traversed by power, and never fixed.'
>
> (Escobar 2001: 140)

Secondly, the thesis conceptualises place as relational. Thinking relationally about place can reveal the connections and disconnections between cities and problematise a simple hierarchical progression of nested geographical scales from the local to the global. In turn, relational thinking reveals the multiple time-spaces in places that are simultaneously rooted in local histories, geographies, cultures and inextricably linked to external influences through translocal connectivities, flows, scales. Following work by Giddens (1990), the thesis argues that now these global and local scales are so intertwined through connectivities, points of transgression, flows, that it is nearly impossible to talk of them as distinct and separate wholes. Or following Lefebvrian arguments, if space is socially produced then so is scale, and if scale itself is socially constructed it therefore loses importance as an analytical category (Marston 2000; Marston et al. 2005).[31] In this vein,

[31] Marston (2000) argues that scale is socially constructed and has no pre-given or fixed ontological status but is socially constructed and produced according to the logic of global capitalism.

as Sassen (2000) has shown, it is difficult, or downright unproductive, to search for where/when the local ends and the global begins. The danger of a scale-obsessed approach is that it falls into another deterministic trap where deterritorialisation of the national is followed by reterritorialisation at the global. Even when there is talk of circulation or flow these tend to be fixed back into these scales. The thesis questions the social construction of scale, instead recognising that if scale is produced, then it must also be contested. A relational approach explores - through ethnographic methods - how multiple interconnections are made, across and between scales so that Cyberjaya is both caught up in global processes while remaining resilient to local conditions.

The research seeks to overcome such binary ways of thinking - the global as always 'out there' and the local 'in here' as distinct, unitary spatial containers. As several urban scholars have noted (Amin and Graham 1999; Graham and Healy 1999; Amin and Thrift 2002), this promotes a language of exclusionary dualisms that obscures the heterogeneous, multiplex nature of contemporary urbanism. So rather than 'pitch local heterogeneous sets of practices full of meaning against bland, generic, empty global styles promoted by neoliberals' (Jones and Carranco 2007: 147), the thesis promotes a sense of locality as hybridised. The tension between multiple technologically mediated spatialities and temporalities pulsing through and within the local setting is summed up by Cosgrove (1996: 1495) who wrote:

> 'The urban world networked by Gates' technology, strung out on the wire, is not disconnected, abstract, inhuman; it is bound in the places and times of actual lives, into human experiences that are as connected, sensuous and personal as ever they have been.'

The empirical enquiry is therefore positioned in the context of recent work in human geography by Ash Amin, Stephen Graham, Doreen Massey, Nigel

Thrift who have conceptualised a relational approach to place. Examples include Amin and Thrift's (2002) work on re-imagining the urban, Graham and Marvin's (1996; 2001) work on the city and networked infrastructures, and Massey (1993; 2004) on a progressive sense of place. These viewpoints conceptualise place, space and time as 'co-constituted, folded together, produced through practices, situated, multiple, mobile' (Amin 2001: 389). In different ways, they advocate a new ontological framework critiquing the traditional conception of place as a unitary phenomenon with a singular time-space. A relational sense of place leads to a more nuanced empiricism as Cyberjaya gains its specifity by being constructed from a specific constellation of power relations, articulated together at a specific setting, rather than being a delineated area mapped onto the landscape.

> 'The uniqueness of a place, or a locality, in other words is constructed out of particular interactions and mutual articulations of social relations, social processes, experiences and understanding, in a situation co-presence, but where a large proportion of those relations, experiences and understandings are actually constructed on far larger scale than what we happen to define for that moment as the place itself...this allows a sense of place which is extra-verted, which includes a consciousness of its links with the wider world, which integrates in a positive way the global and the local.'
>
> (Massey 1993: 66)

Massey's relational thinking articulates with Smith's 'transnational urbanism', defined as:

> '...a marker of the criss-crossing transnational circuits of communication and cross-cutting local, translocal, and transnantional social practices that "come together" in particular places and particular times and enter into the contested politics of place-making.'
>
> (Smith 2001: 5)

This relational sense of place is permeated by multiple 'flow spaces', without a fixed singular identity. It operates antithetically to Euclidean space - jostling between scales, spatialities, temporalities which criss-cross certain localities to produce places. This relational approach can 'unsettle' any bounded sense of cities imagined in the utopian diagrams of technopole planners which positions space as something to be rationally controlled and ordered (Chapter 5). Therefore, the empirical enquiry focuses on how space and time are socially constructed together producing uneven geographies of 'connection and disconnection' (Amin and Graham 1999) in Cyberjaya.

Thirdly, the above points inevitably lead to a (re)focusing on 'the everyday' not as eternally tedious, or the residue of contemporary globalisation, but instead the real space in which everyday practices occur. Often the dazzling transformations - the metaphorical spaces of the 'information society' - obscure how the increasingly technological aspects of society are spatialised through material practices at the scale of everyday experiences. Needless to say an "grounded perspective" - to use that most over-used of qualitative research phrases - provides an insight into both what is *articulated* (the discursive, symbolic representational effects of ICTs) and *embodied* (the practical relationalities of ICTs) in the case study. As Moran (2005) notes, 'the everyday is a space where practice and representation are complexly interrelated, where the lived reality of the quotidian co-exists with clichés, mythologies, stereotypes and unsourced quotations'. By focusing on how people live (in their smart homes) and work (in the corporate campuses) empirical evidence points to how Cyberjaya is both a lived space, and a space of representation. Moreover, this perspective elucidates the sociocultural and political-economic forces that resonate with the politics of everyday life across multiple scales (Allen et al. 1999).

Focusing on the 'view from below' creates an analytical space to illustrate how multiple disjunctures and gaps occur between how the state

ideologically frames the MSC project against how it is experienced by people living in the 'intelligent city'. This discussion on resistance or counter-hegemonic narratives inevitably brings to mind De Certeau's (1984) vocabulary of 'strategies' and 'tactics' in *The Practice of Everyday Life*. In reference to Cyberjaya, 'strategies' can be thought of as how state power is mobilised through the disciplining and operation of space. The state conception of a Malaysian 'information society' literally becomes carved, inscribed onto the landscape. As Bunnell (2004) has documented, state biopower was mobilised via socio-spatial dividing practices which conceptualised the MSC as a space for intelligent citizens. Consequently, those who did not realise themselves in 'intelligent ways' were therefore deemed 'out of place' (Cresswell 1996), and, in the case of plantation workers, removed. Bringing these debates up to date the thesis examines how the state seeks to create a purified space that is devoid of *mental* (distractions) and *physical* (undesirable bodies and their 'non-intelligent practices') pollutants (Chapter 5). Space becomes a dominant mode for reordering society according to certain codes and power relations.

Secondly, 'tactics' are the way in which the 'ordinary people' potentially undermine the ideology of the state and create alternative spaces for themselves. These are means of subversion which challenge hegemonic discourse through everyday practices. As the empirical analysis shows in relation to smart homes; this creates counter-hegemonic narratives as individuals reappropriate both the spaces (of the home) and the technologies of control (ICTs) for their own ends. These tactics are not so much the 'weapons of the weak', as Scott (1985) has argued, because the citizens of Cyberjaya are in many ways very much empowered, in relation to residents in surrounding 'non-intelligent' spaces (e.g. the kampung[32]). Instead, resistance occurs here against technologically deterministic narratives of how the state conceived the 'information society' ideal in Malaysia.

[32] Kampung is the Malay word to describe a traditional village settlement.

Resistance occurs because people do not "follow the script": individuals living in smart homes mobilise 'insurgent' forms of digital living. These citizen-subjects are not passive recipients of their environment; they also shape and mould the space through everyday rhythms, routines. These are all bound up in the specifity of practices within a certain place.

Therefore, through the empirical lens of the 'everyday' space is made for alternative narratives which cannot be reduced to abstract imagery on flows or networks. These emerge to produce a very different account of place than that imagined in the utopian ideologies of the 'information age'. This brings me back to the chapter's opening statement and resonates with Lefebvre's (1991) notion that *space is a socially produced*, with each society producing a space that is suited to its own reproduction. Lefebvre, building on Marxian and Hegelian notions of production, sees space as a product of social processes producing different kinds of space - conceived, perceived, and lived (Kirsch 1995). He examined how social production occurs by distinguishing three forms of space: spatial practices (the routines that constitute the everyday); representations of space (the knowledge, images and discourses that order space); and spaces of representation (which are created bodily). According to this theory, the spaces of Cyberjaya are remade through a complex folding of real, imagined and represented space. It is a space that is highly mediated via representation in promotional materials, it is a utopian space imagined as an 'intelligent city', and it is a space which is experienced by those bodies that inhabit it. Following Lefebvre, the thesis seeks to examine the outcome of the ongoing relationship between the ordering of space by the state (in constructing its discursive architecture) and the negotiation of this ordering enacted by those who inhabit the space (the residents and workers of Cyberjaya).

The tension between 'sticky place' and 'slippery space' can be seen in this context. The 'sticky place' is the representation of space of the state which

seeks to both impose order on that space and how it is represented (e.g. place marketing). This directly conflicts with spaces of representation which emerge in the research setting from the bodily engagements with subjects in the space (e.g. working in a call centre). The end result of this conflict is the production of 'slippery space' which is a space of resistance, counter-hegemonic narratives as experienced from below. This is the classic example of what Lefebvre has termed the production of space which is characterised by a tension between *the representation of space* (as 'sticky') and *the space of representation* (as 'slippery'). As the thesis examines, this leads to a series of paradoxes in Cyberjaya as neoliberal forms of economic globalisation are melded to national development objectives in the MSC.

3.7. Looking Forwards / Looking Backwards

Looking backwards, the conceptual chapter has performed three main roles. Firstly, the chapter contextualised current debates on the 'information society' and 'new economy'. This forms the background out of which the MSC-Cyberjaya project emerged. Secondly, the chapter examined the process of (neoliberal) globalisation and urban restructuring through the spatial concepts of deterritorialisation and reterritorialisation and the strategic mobilisation of 'sticky places' as sub-national scales for economic development. Nation states have mobilised technopole planning strategies as a strategic response to 'informationalised' capitalism based on the premise of plugging-in to globally mobile flows. Thirdly, the chapter argued that a (re)theorisation needs to occur which challenges conventional notions of scale, space/place binaries, and technological agency.

Looking forward to the empirical analysis in the first half of the analysis, Chapters 4 and 5 examine the representation of space by focusing on the 'strategies' employed by the state to frame Cyberjaya as 'sticky place'. This follows two main empirical routes: the material construction of place and the

discursive construction of space by planners, policy makers, and political elites. This 'view from above' narrates how high-tech utopianism is inscribed on the landscape in the form of the 'intelligent city'. Chapters 6 and 7 attend to the 'view from below' which examines everyday spatial practices and the social production of space in Cyberjaya. This addresses: (a) the disjunctures between representations of space (as 'sticky') and spaces of representation (as 'slippery') in Cyberjaya; and (b) the alternative counter-hegemonic narratives that emerge out of spatial practices.

Chapter 4. Going for a "*Multimedia Utopia*": The Discursive Mobilisation of the MSC

Figure 5: MSC Central Monument in Cyberjaya (Source: Author's Photograph)

4.1. Introduction

The aim of the chapter is to examine how the 'discursive architectures' of the MSC have been constructed, by whom, and with what effects. The chapter argues that a range of discursive strategies have been undertaken by the

state actors to position the MSC as a *discursive-ideological* space for (re)imagining the nation and its citizens. These strategies have been influenced by the 'information society' and 'new economy' discourses, discussed in Chapter 3, and a range of institutions were established by the state to inscribe these discourses on the landscape to promote Malaysia as a 'fixing' point for global flows. The chapter examines how this inscription has taken place across multiple scales (local, regional, global), framing the MSC as a 'multimedia utopia' and an imagined space that will transform Malaysia on its road to 'developed nation status' by the year 2020. These discourses are approached critically, observing that the MSC has failed to live up to its own hype.

The structure of the chapter is as follows. Section 4.2 examines the context out of which the MSC has emerged and the influences of key 'information society' ideologues on the MSC planning process. Section 4.3 attends to the discursive practices mobilised by two main ideological agents: the former Malaysian Prime Minister Dr. Mahathir; and the Multimedia Development Corporation (MDEC). These discursive machinations are contrasted with how the MSC is experienced as a *material-physical* space through a 'walking tour' in Section 4.4. Drawing on fieldwork diary extracts it is argued that the MSC has become a paradoxical space whereby its self-promotion as 'multimedia utopia' can be contrasted to its 'everyday geographies'. The conclusion is in the final Section 4.5.

4.2. Imagining the "Multimedia Utopia": The Backdrop for Malaysia's High-Tech Push

The opening argument comprises two parts and addresses the background context from which the MSC Malaysia project emerged. Firstly, following from conceptual material, it is argued that advances in telecommunications in the mid-1990s led to widespread speculation about a coming 'information

age' (Slack 1987). These narratives were highly influential in persuading the Malaysian government to invest in telecommunications infrastructure and ICTs as a national development strategy. Secondly, the section goes on to examine how Mahathir was directly influenced by a number of foreign 'experts' who became international purveyors of 'information society' hyperbole during this era. Kenichi Ohmae, Bill Gates, Alvin Toffler all had direct contact with the Prime Minister during the planning stages of the MSC. 'Information society' discourses operated through transnational flows of people, policy documents, and media reports translated in Malaysia through influential 'MSC architects'. These two processes served to *reterritorialise* the concept of the 'information society' in Malaysia manifesting in the physical construction of an urban corridor for high-technology with perceived benefits for national development.

4.2.1. "A New Spirit for a New Era": Historicising the High-Tech Optimism of the MSC

Although the MSC project was self-consciously promoted by the state as the vanguard of 'information age' Malaysia it has a specific geo-history that requires contextualisation. The project represents the imagined conclusion of the Malaysian development project. Through state management of the economy Malaysia had progressed from one of the poorest countries in the developing world at the time of independence in 1957 to a much celebrated 'model' for developing countries some 20 years later (World Bank 1993). During this time the state facilitated a successful transition from a racialised colonial economy led by the export of primary commodities (e.g. rubber, palm oil, tin and tropical hardwood)[33] to an industrial-based manufacturing economy. From 1970 to 1990, under the New Economic Policy (NEP), manufactured goods overtook primary commodities as Malaysia's largest

[33] According to the colonial division of labour, the Chinese diaspora were the dominant merchant class, the Malays active in agriculture and fishing, and the Indians utilised as labour in commodity production for rubber, sugar, or coffee estates.

exports under a period of industrial developmentalism mimicking the 'Asian Tiger' economies (Jomo 1993).[34]

Despite this impressive economic track record the government had become increasingly concerned by the mid-1990s about how to facilitate the transition to the 'next phase' of development. In 1991 Prime Minister Dr. Mahathir Mohamad promoted the National Development Policy (NDP) (1991-2000), followed by the National Vision Policy (2001-2010), as the next motors for the state development discourse. Both policies continued the legacy of the NEP while striving to improve economic competitiveness, resilience, and productivity in the face of globalisation. 'Wawasan 2020'[35] first introduced in the NDP, outlined how the country could move into higher value-added manufacturing, and then high-tech sectors, as a means of accelerating Malaysian national development. The policy imagined a doubling of real gross domestic product every ten years from 1990 to 2020 so that by 2020 the GDP would be $920 billion in real terms. The aim was to achieve first world status by the year 2020 by raising the average incomes of Malaysians to the same level as advanced highly industrialised nations.

'Wawasan 2020' sounded improbably optimistic even in the context of the dynamic Southeast Asian development experienced in the early 1990s (see Rigg 2002; Jomo 2003). However, Malaysia had partly earned its self-confidence. In the twenty years since 1971 its GNP had risen from 13 million to 124 million Ringgits (RM). Per capita income exploded from an impoverished level of $140 a year to more than $3,000 and the poverty rate in Peninsular Malaysia declined from 49% in 1970 to 16% in 1990 (Andaya and Andaya 2001). From 1971-1990 annual growth rates had averaged at 6.7% and 8.5% between 1991 and 1997. In sum, in the years since

[34] The NEP also had a social agenda to eradicate poverty amongst all races and lead to the restructuring of Malaysian society to correct the economic imbalance, so as to reduce or actually eliminate the identification of race with economic status. It was characterised by a series of pro-Bumiputera (Malay) economic policies.
[35] Translated into English as 'Vision 2020'.

independence the Malaysia had defied the odds to become Southeast Asia's latest newly industrialised country (NIC) following in the footsteps of South Korea, Taiwan, Hong Kong, and Singapore (Greider 1997). Remarkably, this spectacular growth occurred under a semi-authoritarian one-party regime where post-colonial development produced an often corrupt mix of racialised politics, patronage, and wealth accumulation in Malaysia (Gomez 1990; Gomez and Jomo 1997; Searle 1999).

However, despite these achievements 'Wawasan 2020' still represented a grandiose move on the part of the Malaysian state. The MSC was announced in 1996 to accelerate the path towards 2020 and spearhead the next stage of planned Malaysian modernity in an era of a much-hyped new 'information age'. Although the MSC was to create a 'new economy', Malaysia's 'high-tech' legacy dates back to its prominence as an electronics manufacturing hub (e.g. semiconductors, hard disks, processor chips). In the 1970s foreign direct investment (FDI) from MNCs was channelled into Export Processing Zones (EPZs) such as the Penang Free Trade Zone, Kulim Tech-Park, and Shah Alam industrial park.[36] These locations were promoted by HICOM (Heavy Industries Corporation of Malaysia), by the then Minister for Trade Dr. Mahathir, as engines of industrial growth as Malaysia placed increasing importance on science and technology as drivers of modernity. However, in each of the EPZs, technical expertise and knowledge transfer has been elusive with MNCs using Malaysia as a low cost manufacturing and product assembly base.

As a consequence of the above policies, technology institutions like MIMOS (Malaysian Institute of Microelectric Systems), founded in 1985, pioneered government policies to promote 'indigenous' high-tech led development. In 1992 the Malaysian Technology Development Corporation (MTDC) was

[36] For example, Intel, AMD, and Fairchild have all had a manufacturing presence in Malaysia for over 30 years.

established to provide venture capital to Malaysian research and development technology projects. Two years later Technology Park Malaysia (TPM) was built as an innovative hub for high-tech companies and national projects.[37] The growing emphasis on 'high-tech national development' culminated in the MSC vision and led to the creation of the National Information Technology Agenda (NITA), in 1996, to manage Malaysia's 'giant leap' into a new 'information age' era.

> 'A new spirit for a new era. Distances will not separate you. There will be no barriers to communication. Ideas and information will flow seamlessly across borders. Technology will liberate the imagination. The possible will become probable. The probable, real. This is the world of tomorrow being created today in Malaysia.'
>
> (Telekoms Malaysia Advert for the MSC, 1996)

The MSC was planned and discussed in 1995, and officially launched and "opened to the world" by the Malaysian government in 1996 as part of the Seventh Development Plan 1996-2000 (Malaysia 1996). There were two significant historical moments that combined to create the conditions for the development of the MSC Malaysia project.

Firstly, the mid-1990s marked a period of national re-imagination after the effects of rapid Malaysian industrialisation and economic growth in the 1980s and early 1990s. During this time Malaysia experienced a 'bubble economy' resulting in the country's rise to prominence as the prime centre for capital accumulation and foreign direct investment in Asia-Pacific. As the Malaysian economy became increasingly integrated into the global capitalist system the globalisation project of economic integration quickly became a nationalist project under the auspices of Mahathir's 'Wawasan 2020'.

[37] These formed part of the Sixth Malaysia Plan (1991-1995) whereby several science and technology centres were established to stimulate national development.

Secondly, the mid-1990s was a historical period of unparalleled utopianism predicting the advent of a new technological epoch in which the whole world would be able to reap the benefits of information technologies. Utopian discourses of an imagined 'information society' were enthusiastically promoted by national governments, international organisations, business consultants, and the popular and business press. It became part of a transnational culture - global in reach and orientation - ingrained with technologically deterministic assumptions concerning the relationship between technology and society. As examined in Chapter 3, technologies were bring about wholesale shifts in our economy, society and culture ushering in a new 'information society' whereby the revolutionary impacts of ICTs were seen to constitute a rare interval in history.

In this context, it was therefore entirely logical that an ambitious developing nation such as Malaysia embraced the 'information society' as a means for national development. The state promoted the MSC as a vehicle through which Malaysia could both connect to, and integrate with, the global economy. Consequently, global discourses on neoliberal economic forces and advancements in science and technology captured the imaginations of policy makers and were appropriated in Malaysian ideas of progress and policy for nation building. The MSC drew heavily on the rhetoric of globalisation; which posits that in an increasingly 'borderless world' nation states must reposition themselves as attractive nodes in a networked global economy through advanced infrastructures, locational incentives and high quality human capital. As a former MDEC chairman commented to me:

> 'In international society the MSC symbolises the inevitable collaboration of interdependent lives. The flow of money, trade, people and ideas across national boundaries have never been stronger in history'
>
> (Research Interview: MDEC Technopreneur Division)

Through these hegemonic discourses the MSC project became legitimised as a high-tech mega-project that was deemed to be essential for national success in a new era. The MSC was imagined as an *ideological* space and promoted through specific language mobilised in the MSC policy documents and promotional materials. The new vocabulary of 'gateways', 'revolution', 'hubs' and 'networks' mobilised by the state sought to (re)configure Malaysian society, and (re)imagine itself in relation to a putative 'information society'. The next three points illustrate how the MSC self-consciously positioned itself as a node for plugging into and reterritorialising cultural-economic flows.

Firstly, the MSC was articulated as an urban 'gateway' (see Short et al. 2000) and promoted as Malaysia's entry ticket into both the global information economy and the future world of cyberspace. The newspaper headlines 'Malaysia maps out the road to Cyberspace' (*The Star*, 02.08.1996) 'Advent of a new Cyber-era' (*Malaysian Business*, 16.08.1997), 'Road map to the future' (*Asiaweek Magazine*, 13.06.1997) circa 1996-1997 were symptomatic of the 'new-age' futurology. Numerous articles, reports declared that the MSC would become 'Malaysia's gateway to a high-tech future'. In turn, the MSC was to provide the 'ideal environment' for technology and global capitalism to flourish whereby Malaysia would 'not merely to ride the waves of technological change, but master them' (Mahathir 1998). In all of the state-owned press coverage (e.g. *The Star, New Straits Times, Berita, Bernama*), the MSC was discursively framed as an endeavour that will eventually result in the nation entering a new technological epoch.

Secondly, technological change was presented as a new 'revolution' to which the state must respond to remain internationally competitive. Castells (1992) labels this 'the ideology of survival' whereby national development is linked to scientific and technological advancement. As a result, national

development policy has been inextricably linked to an ideological investment in telecommunications as a future driver of economic competitiveness. Investment in telecommunications infrastructures, human capital techno-upgrading, and the provision of new spaces for global capital was planned to enable Malaysia to achieve a 'competitive edge' in a new era. For example, the state spent $2billion on high capacity fibre optic telecommunications that were optimistically intended to bring Malaysia's infrastructure up to the level of its neighbours Singapore and Hong Kong. This was imagined as a linear process whereby investment in urban telecommunications policies would enable a 'giant cyber leap' into the global 'information society' thus enabling Malaysia to 'take part in a new technology wave' (*The Star*, 02.08.1996). It was therefore uncritically accepted by the government that a 'technological revolution' was in place and that the MSC should become Malaysia's strategic response to it.

Thirdly, the MSC was presented as global 'hub' in a new 'networked' space drawing economic, social, and cultural flows into the state. The boundaries and limits of the nation were redrawn and redefined; the representation of Malaysia as global 'informational hub' is qualitatively different from that of, say, Malaysia as an electronics manufacturing hub. Malaysia sought to reposition its relationship with the world via two mechanisms: firstly, the state was *symbolically* framed as 'globally visible' through a series of ambitious urban mega-projects (e.g. Petronas Towers, Kuala Lumpur International Airport, MSC, Sepang Formula One Circuit) that served to put Malaysia on the global map as a result feats of engineering, technical expertise, and sheer ambition; secondly, Malaysia has been *physically* linked to the world through an upgrading of technological (MSC, fibre optics, national information infrastructure), logistical (KLIA, KL Sentral), and economic-legal (neoliberal roll-back, deregulation, liberalisation) infrastructures. The construction of these 'signature' architectural projects, in tandem with state-managed promotional strategies, were to take Malaysia from the periphery to

the centre of the global capitalist system. Specifically, the MSC was promoted as Malaysia's 'global connection' to spectacularise national territory and create a fictional linkage to a global 'information society'.

The MSC originated during the formative years of the internet when it was unclear what the future direction of cyberspace would be. It was apparent that new media technologies were converging but how this would take shape was difficult to predict. Although talk of a neo-Fordist information revolution proved to be wildly futuristic (Robins and Hepworth 1988), the internet had profound economic, social, political, and cultural implications for society. However, the relationship between the MSC and the internet was, and still is, highly ambiguous. The MSC was built to become an urban corridor at a time when "cyber gurus" were claiming that with the proliferation of the internet, *connectivity* not *location* was paramount. For instance, Bill Gates (1995: 31) argued that 'as documents become more flexible, richer in multimedia content, and less tethered to paper, the ways in which people collaborate and communicate will become richer and less tied to location'. In an era that predicted the advent of 'anytime/anywhere' global capitalism and a ubiquitous 'information society', it was paradoxical that Malaysia should build a physical hub for a purportedly footloose high-tech industry. This disjuncture appears glaringly obvious now. However, at the time of conception the MSC was a baby of the internet era. It was a project borne out of Mahathir's conviction that if Malaysia joined up to the IT-enabled 'information age' first, then the country would not be left behind. In the rush to sign up however the concept of the MSC was poorly defined. The project superficially embraced the rhetoric of 'electronic commerce', 'borderless marketing', 'worldwide manufacturing hubs' without a clearly defined strategy for implementation. One of the participants at the initial MSC launch summarises the confusion that surrounded Malaysia's new technological era.

'Everyone was talking about ICT and asking about what it was. I remember during the launch people were asking about it, even I didn't know about it. I think MSC was badly defined. I know in 1997 and 1998 people were wondering what to do, so that is why they created this international advisory panel, to get people there from Sun and Intel, and all these big boys advising the government this is the way to go. So you can have the yearly meetings with them and do it. You meet annually then things will start to take off. I think most people you know, at that time, they hadn't started using the internet. So when MSC was conceptualised the internet wasn't properly factored in.'

(Research Interview: Editor, *Net Value Magazine*)

4.2.2. Importing the 'Information Society' Ideal and the Role of Foreign 'Experts' in Conceptualising the MSC

'We have read the charts and studied the trends. We have tried to put our finger on the pulse of the forces that will shape the socioeconomic tapestry of the future. One consistent pounding beat was digital technology. Thus, we decided to make the Information and Communication Technologies (ICT) the engine of growth within all economic sectors.'

(Mahathir 1998: 19)

Mahathir and the state placed faith in 'expert knowledge' provided by transnational planning firms (Chapter 5), members of the MSC's International' Advisory Panel (IAP), 'information society' gurus and specialist government advisors to articulate a universal 'quick-fix' to the national problem of how to accelerate national development and become a developed country by the year 2020. The discursive construction of the MSC was influenced by several prominent 'information society' ideologues who advised the state on how to create the conditions for a 'new economy'. As members of what Olds (2001) and Rimmer (1991) term the 'Global Intelligent Corps' these individuals played a crucial role in 'enrolling actors' into discursive networks. They are part of an 'epistemic community' (Haas 1992) with the capacity to shape the ongoing constitution of networks that reach

across space with global effects. In the planning and consultation process for the MSC a range of elite 'foreign experts' were invited to become members of the state's IAP. These influential individuals were seen as the 'harbingers of modernisation' (Olds 2001: 150) and able to deliver economic results for the Malaysian state.

Prominent members of the IAP included Alvin Toffler, Bill Gates, Kenichi Ohmae, and the CEOs of Apple, IBM, HP and Sun Microsystems. These individuals formed a 'cultural circuit of capital' (Thrift 2001: 415) disseminating knowledge about the 'information society' through business seminars, management consultancies, media appearances, and often the publication of their ideas in books. Of these futurists, Kenichi Ohmae and the consultancy firm he worked for, McKinsey and Co, were most influential in Malaysia.[38] Ohmae is a self-styled "global business guru" and corporate strategist who coined the term 'borderless world' (Ohmae 1991; 1995). He was the main consultant used by Mahathir to advise the Malaysian government on the nation's strategic response to the new 'information age'. The MSC project is, in part, based on Ohmae's own vision to turn Tokyo into a 'Multimedia Super City'. This was used as an electoral slogan during his unsuccessful campaign to become governor of Tokyo in the 1990s.

The close relationship between Mahathir and Ohmae can be traced back to the 1980s when the latter acted as a consultant on Malaysian national IT policy. When conducting interviews with the 'MSC architects' Ohmae was repeatedly identified as an important influence on the MSC vision. Before the MSC was formulated there was little clear strategy or consensus on how

[38] The McKinsey & Co corporate website outlines their role in conceptualising the MSC vision and working with the Malaysian government. 'We have advised the Malaysian Government on public policy and economic development since the mid-1980s. For example, we helped conceptualise and launch the Malaysian Multimedia Super Corridor (MSC) in the mid-1990s. And today we continue to advise the government on critical strategies for growth and competitiveness, e.g., in high-technology or logistics.' (McKinsey & Co website, accessed 28/05/2007)

Malaysia should respond to, or take advantage of the new 'information age'. Ohmae pronounced his thoughts on the corridor in 1996:

> 'The world will view the Multimedia Super Corridor as the first real attempt at a massive migration from the industrial era to cyberspace.'
>
> (Ohmae, cited in *Asiaweek Magazine,* 16.08.1996)

McKinsey had published a report as early as 1994 outlining the 'leapfrogging imperative' of the MSC vision predicting that GDP per capital would increase exponentially if Malaysia followed their route to 'multimedia utopia' (Huff 2002). Ohmae suggested the preparation of a specialised urban corridor as a strategic response to his 'borderless' world. At the time there were even reports that Ohmae was going to live in Cyberjaya himself (*The Star,* 28.11.1996). A summary of Ohmae's influence is provided below by the editor of Malaysia's most influential technology magazine, *NetValue.*

> 'It [MSC] was actually created by McKinsey consultants, you know this Japanese guy Kenichi Ohmae. These consultants have the benefit of global offices everywhere, and they felt that ICT was going to be a huge driver for the world, so they really went for it I think. So they presented this to Mahathir, and said if you want to leap frog Malaysia must move out from being a commodity country based on rubber and tin. The demand for these fluctuates and depends on the vagaries of the market, depending on demand and supply. So if Malaysia moved to ICTs then the growth could be sustainable and it can be an industry for the future, it is not a resource that can run out. ICTs are all about brain power, knowledge, and these things. He convinced Mahathir this is the way to go, so he went down that road...That was the big picture, or idea, and Mahathir bought into that for sure.'
>
> (Research Interview: Editor of *Net Value Magazine*)

Ohmae had direct and clear influence on the MSC both in terms of: (a) its material and conceptual planning through the McKinsey & Co consultancy

firm and; (b) how the MSC was discursively articulated in Mahathir's speeches of the time. In public pronouncements Mahathir often drew directly from the rhetoric of Ohmae's 'borderless world' hypothesis in policy speeches comprising metaphors of 'circulation', 'webs', 'networks' which framed the imagined spatiality of a new era.

> 'I see MSC as a multicultural "web" of mutually interdependent international and Malaysian companies collaborating to deliver new products and services to customers across an economically vibrant Asia and the world. I fully expect this web will extend beyond Malaysia's borders and out across Malaysia's multicultural links to our neighbours. Component manufacturing can be done in China, on machines programmed from Japan, with software written in India, and financing coming from Labuan IOFC. The product may be assembled in Penang and shipped to global customers direct from our new airport in Sepang.'
>
> (Mahathir, cited in *The Star,* 02.08.1996)

> 'As we approach the 21st century, fantastic changes are taking place which make what was impossible in the old economy of the industrial age suddenly possible in the "information age". For practical purposes, borders have already disappeared because knowledge, capital, company activities and consumer preferences ignore lines on a map.'
>
> (Mahathir 1997b)

Speeches framed according to the management rhetoric of Ohmae led many observers of the time to claim that the MSC vision was a direct attempt to 'create a borderless world' (*The Star*, 25.08.1996). The discourse of the MSC is littered with Ohmae's buzzwords and talk of a 'new age of information' in which the power of the state is receding, and borders become less significant. This process imagined a multicultural reworking of the nation and national identity through what were very transnational processes. While Mahathir and the Malaysian government uncritically accepted that a new 'information age' was upon them there were also key local, regional, and

international drivers to the MSC (next section). Seen in this light, the MSC became an ideological vehicle that enabled the state to promote its own political and economic agenda within Malaysia.

In practical terms neoliberal rhetoric outlining a 'borderless' world sat uncomfortably with the legacy of Malaysian state-led economic intervention. Attempts at social engineering through the longstanding New Economic Policy (NEP) - geared at promoting indigenous Malay (*Bumiputera*)[39] development - directly contradicted Ohmae's assertions that 'it was the regulators we have to fear'. Growing state authoritarianism and control of the MSC project led the relationship between Ohmae and Mahathir to break down. This culminated in Ohmae's resignation in protest at the arrest and imprisonment of former deputy prime minister Anwar Ibrahim in 1998 due to a power-struggle within the government. This high profile event rocked public confidence in the MSC and caused several high-profile supporters (including Bill Gates, Alvin Toffler[40]) to distance themselves from the MSC project. As the quote below demonstrates, the "Anwar Affair" (as it became known in the media) severely knocked the confidence of international investors.

> 'The internet cannot deliver its full economic and cultural benefits in a climate of political fear. Mr. Mahathir cannot expect the world's greatest high-tech companies and leaders, to whom he promised complete freedom of information and a host of other guarantees, to help bring the digital future to his own country while his police throw his former protégé into jail.'
>
> (Toffler, cited in *Los Angeles Times,* 29.10.1998*)*

To summarise, the section has highlighted the geo-historical context for MSC Malaysia 'new era' rhetoric. The section observed how members of the

[39] 'Bumiputera' is the name given by the state to describe Malay and indigenous groups in Malaysia. These groups have been subject to ethnic positive discrimination policies since 1970 in Malaysia under the NEP.

[40] Toffler wrote two open letters to Mahathir in protest at the imprisonment of Anwar Ibrahim that were widely circulated in the international Press.

'global intelligence corps' (GIC), who through their connections with business, political and policy networks have the power to mobilise specific technological-economic discourses. GIC elites like Ohmae were influential in shaping the discursive architectures of the 'information society'. These individuals are hyper-mobile, moving beyond physical borders to spread their discourses throughout the globe in corporate seminars, public events, and reports in the business press. Such individuals work for GIC firms (like McKinsey) located in global cities, with highly respected global reputations in consultancy work. These connections give GIC elites and their firm's access to governments through consultation processes with political elites. Mahathir was eager to invite GICs to collaborate on the MSC due to: (1) their perceived expertise in planning for the 'information society'; (2) their capacity to add important symbolic capital to the project.

4.3. Building Discursive Architectures: Strategies in the Mobilisation of the MSC

The section examines how the MSC has been discursively mobilised in Malaysia by two main ideological agents – the Multimedia Development Corporation, and former Prime Minister Mahathir Mohamad. Behind the glossy image of the MSC as a global multimedia hub is a complex assemblage of politicians, technocrats and policy makers projecting a 'successful image' for the MSC. The MSC came into being as an *ideological* space through the circulation of multiple objects that include state-controlled promotional leaflets, press interviews, progress reports, newspaper stories, and media output. Together these produce a state-controlled 'representation of space' (Lefebvre 1991) through the normalisation of a hegemonic discourse that seeks to reframe Malaysia and its citizens for high-tech development.

Figure 6: MDEC Promotional Advertisement (*The Edge Magazine*, 24.04.2006)

MDEC (Multimedia Development Corporation) is billed by the Malaysian government as the 'one-stop shop' for MSC companies. Bearing the slogan "Leadership in the Information Age" MDEC is the lead government agency commissioned to roll-out the MSC vision. The mission statement of MDEC is to "to realise Malaysia as a global hub and preferred location for ICT and multimedia innovations, services and operations." The MDEC headquarters

is located in Cyberjaya, at the imagined centre of MSC space. Recently MDEC has opened offices in overseas locations to promote the MSC doctrine in other parts of the world (Hyderabad, India; Dalian, China; Jeddah, Saudi Arabia). MDEC's goal is to create a 'global brand' that can be marketed around the world. It produces a vast number of promotional leaflets and frequently runs adverts in the state-controlled print media to promote the MSC (Figure 6). The slogans are characterised by two prominent themes which permeates all the MSC promotional material; technological determinism and high-tech futurology.

Theme 1: Technological Determinism

Endless possibilities through ICT

Spearheading transformation

Bridging ideas and reality

Bridging knowledge and technology

Championing growth and development via ICT transformation

Harnessing ICT fundamentals for growth and transformation

Enabling synergies, enhancing potentials, building innovative communities

Theme 2: High-tech futurology

Turning dreams into realities, transforming hopes into realities

Leadership in the information Age

Transforming tomorrow today

Pessimists change, optimists transform

Yesterday's science fiction is rapidly becoming fact in MSC

Figure 7: MDEC Slogans Used From 2006-2007

These promotional themes can be read in two ways. Firstly, they promote technological determinism whereby it is assumed that: (a) ICTs can drive economic and social development; (b) changes will be "rapid" and "transformative"; (c) high-tech growth will have an exclusively positive impact on the nation. The promotional slogans suggest that change will take place

rapidly, bringing to bear wholesale changes in the organisation, content, and nature of Malaysian society. Secondly, according to MDEC, Malaysia is entering the 'new information age' - though what the 'information age' is, or how it functions is never defined. It offers the country utopian possibilities to fast-track the development process through information technologies. Phrases like "endless possibilities through ICT", "transforming tomorrow today" and "transforming hopes into realities" are all symptomatic of a new era in which ICTs are seen to accelerate the arrival of a new 'information society' in the form of a 'multimedia utopia'.

The second ideological architect of the MSC project is the former Malaysian Prime Minister Dr. Mahathir. While Mahathir often consumed and promoted 'information society' discourse he did so on his own terms to both: (a) justify the high levels of state expenditure channelled into the MSC project; (b) push his own political agenda through the MSC project. He had such direct involvement in the MSC vision that it became known as "Mahathir's project".[41] When Mahathir retired in October 2001 he had been in office for 22 years, and, he more than anyone, had shaped 'modern Malaysia'. It was in the last 12 years of his leadership that the concept of 'Wawasan 2020' was borne, with the MSC conceived the MSC as both its economic driver and a new way of imagining the nation. Mahathir was 'Malaysia's super salesman' (*New Straits Times*, 16.02.1997) and he played an active role in the discursive mobilisation of the project across multiple scales.

There are important factors in Mahathir's own background that contributed to the formulation of the MSC policy. Since his time as Education Minister in 1975 Mahathir had outlined the need for 'education for the masses'. He placed greater emphasis on maths and science, at high school level as a means to accelerate national development. After his election as Prime

[41] This had led observers to speculate that the new Malaysian Prime Minister, Abdullah Badawi, has deliberately distanced himself from the MSC project due to its close association with Dr. Mahathir.

Minister in 1981 Mahathir stressed the economic benefits of science and technology and the 'indigenisation of technology development'. In the 1980s Mahathir's heavy industrialisation policy was a strategy for reducing Malaysia's economic dependence on advanced capitalist states and on world commodity markets. The shift from an import-substitution to export-oriented, technologically driven phase of economic development was undertaken for both economic and nationalistic reasons.

As one interviewee commented, Mahathir always a 'man in a hurry', promoted the MSC to accelerate the process of national development that he had successfully set in motion during the 1980s with large-scale industrialisation. Mahathir was conscious of technological changes in an era of globalisation, and saw the opportunity for the Malaysian economy to shift to an industrial to knowledge based model. The MSC was part of his grand vision, and he was therefore the main 'cheerleader' for the project.

> 'Mahathir was the leader of the state, and he met many IT companies, and he told them about his vision of the future for MSC. I think it stuck on him that it was going to be big in the world. At that time no one really knew, with the internet what was going to happen. But Mahathir just had a belief it would be ICTs and this was the way to go, and he wanted to make ICTs the pillar of the economy... This is what he did. He was a man in a hurry; he wanted to do everything so quickly. He wanted to drag the country up from an industrial age economy into the next stage. He saw MSC as the way to do it. This was his grand vision, so this was down to Mahathir trying to get Malaysia by the scruff of the neck. But when you talk to people, it made Malaysia realise the importance of IT quicker than we might have done otherwise.'
>
> (Research Interview: Manager, Panasonic)

The discursive mobilisation of the MSC as *ideological* space is enacted on three scales: nationally, regionally, and globally. The following three sections examine each in turn.

4.3.1. High-Tech Nationalism? The MSC as a Push Towards Technological Independence

Firstly, the MSC discourse is not about information technologies per se, but part of an overall strategy that appropriates discourses of nation-building, post-colonial technological independence, and high modernity. Mahathir argued that without the MSC, Malaysia would be dominated by foreign countries that had superior skills in, and access to, telecommunications (Mee 2002). Despite international scepticism, Mahathir argued that the MSC was a national necessity in order to reach 'Wawasan 2020' so that the country would be 'subservient to no-one'. Mahathir argued that failing to enter the 'information age' involved a far greater risk, leaving Malaysia behind its more technologically advanced neighbours. Therefore, the MSC could provide the ideal environment for jump-starting a new telemediated economic revolution in which every country had equal opportunity for success in the 'new economy'.

Mahathir's brand of high-tech nationalism can be seen in the context of his often strained relationship with the West- particularly UK, USA, and Australia.[42] Mahathir's animosity to the West led to the formulation of a "Look East" policy in the 1980s whereby Malaysia looked to emulate successful Japanese and Korean developmental-statist models of growth. His campaign for "Malaysia incorporated" sought to directly replicate the success of the "Japan Incorporated" model. Japan's economic triumph had reversed five centuries of world history and allowed European-American hegemony to be superseded by people of colour. Despite of the ambivalence the Malays felt

[42] Mahathir famously started a boycott of British goods known as the "Buy British Last Policy" which was started in response to a row over tuition fees between the UK and Malaysia.

towards the Japanese in the wake of their Second World War occupation, they tried to emulate Japan's economic model through strong central government that would command, protect or subsidise markets and enterprises through nationalistic strategies of control and protectionism.

During the Malaysian economic boom of the 1980s and 1990s the "Look East" policy appeared vindicated. Mahathir's confidence buoyed by predictions that the world was on the threshold of a new 'Asia-Pacific century' (Savage et al. 1998). Mahathir was a central agent in the discursive construction of the 'East' as disciplined and ordered, opposed to the 'West' as decaying and decadent (Bunnell 2004). His position as a visionary in Malaysian politics was juxtaposed with his image as pariah of the Asia-Pacific region amongst some quarters of the international press. For Mahathir "Look East" opened a new possibility for a potential Asian modernity beyond the imagined territorial spaces of the West. This concept was pushed by Mahathir's former protégé Anwar Ibrahim. Anwar's emphasis on "Asian Values" were presented in the 'East' as an alternative model to liberal democratic development models and Euro-American laissez-faire capitalism. This concept, much in vogue in the mid-1990s, was grounded in the belief that Asian countries possessed a unique set of institutions and political ideologies which reflected the region's culture and history.

In sum, the region no longer needed to "Look West" for models of national economic and social development. Mahathir combined Asian post-colonial confidence with his own self-promotion as visionary for the developing world. With the MSC Malaysia was now to dance to its own tune in a quest to join the elite group of developed countries by the year 2020. Out of this new-found (pre-Asian Financial Crisis) self-confidence Mahathir carved out the slogan 'Malaysia Boleh' (Malaysia can do it) to symbolise the nation's new attitude. The launch of the *Proton* national car, *Malaysian Airlines* (MAS) as the national air carrier and the series of mega-projects became symptomatic

of boom time Malaysia. This was a time when Malaysians self-confidence often exceeded its material constraints as a small, young post-colonial state. Despite this, Mahathir gave the nation both a sense that they could believe buoyed by fact that under his stewardship 'most Malaysian could not remember a time of greater prosperity or lesser inter-ethnic recrimination than in the mid-1990s' (Khoo 1999: 263).

Mahathir promoted the MSC as both a physical space and a new paradigm for the next phase of his national development project.

> 'The MSC is not just a physical location, or just another industrial or technology park- and it is not a far Eastern imitation of the Silicon Valley - it represents a new paradigm in the creation of value for the for the information age. MSC is envisioned to be a high-tech test bed which will unlock the full potential of multimedia. We aspire to be a world centre for the applications and testing of leading edge IT advances and discoveries. For us, this will primarily be the vehicle for our country's entry into the new knowledge based economy, moving us from labour intensive to high-tech industry and so on in the information age. It will also be our fast-track to the fully developed nation status we have targeted for ourselves in the second decade of the century, which we call our Vision 2020.'
>
> (Mahathir 1997b: 130)

However, Mahathir's utopian rhetoric that the 'best way to control future is to invent it', appeared to dazzle and confuse in equal measure as this extract from interview with a government worker in Cyberjaya exemplifies.

> 'At first when I heard about it, I couldn't really understand it, like too big, or too good to be true. I think it was the same with many people who didn't know what MSC was. But knowing the then prime Minister Tun Mahathir, knowing him, his character, I did think he could pull it off, because he was famous for his mega-projects. We have our tallest twin towers in the world, we have the huge Kuala Lumpur airport which is now part of the whole

> corridor which is across from Kuala Lumpur, down to KLIA, so knowing him, I thought this could be something just huge, and I thought it would be nice to be right in the middle of it. But there was a bit of scepticism, because it sounded almost too good to be true you know. I think people were wondering if he could do it.'
>
> (Research Interview: Government worker, Putrajaya)

Added to this, there was a central paradox inherent in the MSC vision as a Malaysian project for technological independence, but one that sought to emulate the West in terms of: (a) a desire to replicate California's Silicon Valley model and; (b) to reposition Malaysia as a developed (read 'Western') country. This seems to directly contradict the "Look East" policy that sought to emulate Japan and not the USA. While Mahathir joked that if you 'look far enough East you see California' (Mahathir, cited in *Asian Wall Street Journal*, 11.06.1997), it fails to hide the fact the MSC sought to both learn from and replicate a global centre which is always imagined elsewhere, outside its own territory.

By connecting to and reterritorialising cultural-economic flows - Western investment, flows of expert workers, technical expertise etc - in national space Malaysia could be repositioned as a new 'globally visible' intelligent nation. Ohmae argued that through investment in telecommunications 'Malaysia could well become a global focal point' (*Asiaweek Magazine*, 16.08.1996) for cutting edge research and development in I.T. He imagined that through technology Malaysia could move from the periphery to the centre of the information era. Mahathir also argued that 'there was no barrier as to why the MSC could not become a new point of global centrality. As a connected space it aspires to be 'globally linked across the world 24 hours a day, 365 days a year allowing for real-time operational control' (*The Star*, 02.08.1996). Yet the over-reliance of MSC's success on enticing foreign investors and companies is problematic. For example, Malaysia had her fingers burnt once before due to over reliance on foreign capital when at the

height of Malaysian financial neoliberalisation and foreign direct investment the Asian Financial Crisis caused the economy to contract by 6.7% in 1998 (Shari 2001).

In previous rounds of economic development foreign producers drove the Malaysian economy, not the Proton Saga or the nationalistic projects of HICOM. For example, in the 1980s, Japanese and American manufacturing branch plants in the electronics sector accounted for half of all Malaysia's exports and employed some 150,000 people (Greider 1997). By the end of the decade Malaysia was producing nearly 1% of the world's entire electronics products for exports (Riaz 1997). However, despite these impressive figures the sector was almost entirely foreign-owned and didn't represent the success of Malaysian industry. As empirical evidence in Chapter 6 and 7 argues these cultural-economic flows (e.g. in SSO industries) merely serve to reaffirm Malaysia's peripheral status in the global economy. However, between 1996 and 1997 the majority of Mahathir's speeches invited the global community to participate in the MSC. The reliance of the MSC on foreign companies transferring technology to local start ups was uneasily married to the nationalistic vocabulary of Mahathir.

The state tied the MSC policy to a growing sense of urgency where its social and economic development was couched in the Mahathirist rhetoric of 'do or die' or 'there is no alternative' (TINA[43]). Mahathir frequently argued that investment in high-technology was the future for national development and that any deviation from this policy would lead to an economic disaster. This was exemplified in a quote from a former manager of Technology Park Malaysia who argued at the time 'if the MSC does not come into the economic picture, there will be a recession.' Mahathir strived to psychologically prepare the nation for what he termed a 'giant leap forward'

[43] This slogan was popularised by the former British Prime Minister Lady Thatcher in the 1980s to promote her neoliberal economic policy agenda focused on deregulation, liberalisation, and open markets.

into a potential 'information society'. In promotional materials the state directly appealed to Malaysians to 'shed misconceptions and, old mindsets and fears, as opening minds to change will bring more possibilities and a better quality of life' (*MSC.com Magazine*, 2004). Smart schools, smart homes, e-government and other flagship applications were to equip the nation with the technical know-how needed to exceed in this brave new world. The MSC was positioned as paradigmatic space bound up with notions of economic development, national ideology, and social transformation.

> 'The Multimedia Super Corridor is the world's most comprehensive Information & Communications Technology (ICT) development project. Much more than a technology park, the corridor is a vehicle for transforming the economic and social landscape of Malaysia. The MSC vision is to create the ideal multimedia environment for businesses to thrive in and transform Malaysia into a knowledge society by 2020. The MSC offers a Malaysian initiative for the Information Age.'
>
> (MDEC promotional leaflet for flagship applications, 2003)

Discourses of the 'information society' were inscribed onto the consciousness of the population via newspapers, state-owned broadcasters, and through public awareness leaflets. In order to get Malaysia to embrace the 'information society' ideal the population was 'enthused, mobilised and the MSC became part of everyday discourse. Public pronouncements in the print media and on television extolled its virtues, politicians sought MSC photo opportunities, and conversation everywhere revolved around aspects of the MSC' (Wong 2003: 296). The following quote from a Cyberjaya student sums up the wave of euphoria which accompanied the early years of the MSC vision.

> 'Remembering back to when I came here in '98 there was a lot of hype. It was one of the reasons I chose MMU over other universities, as it was being

> linked to this MSC vision. But Cyberjaya at that time was just trees and dirt roads, so we had to use our imaginations. Nearly everyday MSC was in the national press, sometimes on the cover, everywhere people were talking about it....I think this was a genuine excitement. Mahathir was great about creating a fuss about mega-projects. When he supported something people would listen.'
>
> (Research Interview: MMU student 7)

The project was sold as an inclusive ideological space in which all citizens were invited to participate regardless of race. The project ties into stated goals of 'Wawasan 2020' to create a *Bangsa Malaysia* (Malaysian nation) and heightened sense of 'Malaysian-ness' that was a prominent theme in Mahathir's National Development Plan (1991). The MSC was conceived as an imagined territory neutral from the racial divisions that had plagued Malaysian society since the ethnic riots of 1969.[44] In the MSC all Malaysians were encouraged to undertake a process of self-improvement, the end goal of which would be to become an 'intelligent citizen'. As a result Malaysia could nurture 'world-class scientists, researchers, innovators to develop international brands' (Minister of Science, Technology and Innovation 2004). Local entrepreneurs and start up IT companies could potentially thrive and promote Malaysia as a multicultural international brand. MDEC runs 'knowledge worker' and 'technopreneur development' programmes that are geared with the specific goal of creating a new generation of intelligent Malaysia citizens. Through these schemes a range of competency and skills development programmes are offered with the objective of up-skilling the nation. The ultimate goal here is for the MSC to create a home-grown Malaysian version of Bill Gates (*Fortune Magazine*, 18.08.1997).

Wiring the MSC with 'world-class state-of-the-art' infrastructures were intended as a vehicle not just for enticing the foreign companies to Malaysia,

[44] Ethnic riots between Malay and Chinese Malaysians occurred in the aftermath of the 1969 national election in which the Malay dominated government lost a large number of seats.

but also creating a 'test bed' in which Malaysians could experiment with ICTs in their daily lives. In the promotional literature MDEC envisaged the MSC as a 'world of smart homes, smart schools, smart cards and smart partnerships'. The different flagship applications were designed to change the way Malaysians participated in politics, paid their bills, communicated with their doctor, kept up to date on community information. The "everyday-ness" of the technological vision was exemplified in Mahathir's 'Teleconferencing Dialogue' of April 1997 which saw Mahathir linked to 13,000 Malaysians in 28 locations across Malaysia. During a two hour teleconference Mahathir took questions from the nation about the MSC including a computer teacher from Kota Baru, a Kuching businessman, a village head in Langkawi, a form two student from Kota Kinabalu. The dialogue was designed to position Malaysia as a homogenous space which would receive universal benefits from the MSC.

The dialogue was part of the state's strategy to 'engage ICTs in people's day-to-day lives, bringing about a change in the ways ICT is looked at' (Othman, cited in *MSC.com Magazine*, 2004). Therefore the MSC was imagined to flatten regional inequalities linking everyone together via high-tech connectivity in one large, networked space. Though the details were vague, Mahathir participated with a carefully selected group of "ordinary" Malaysians to outline what the MSC was, and more importantly how they could benefit from it. In the dialogue the MSC was framed as a national project that would empower all Malaysians in equal ways from the fisherman in Penang, to the rice farmer in Kedah, to the programmer in Cyberjaya. Everyone would be *in* on the MSC. Despite Mahathir's promotional posturing, material and ideological investment in a new urban corridor south of Klang Valley appears at odds with the goal of the MSC promoting its benefits across the whole of Malaysia.

4.3.2. The 'Siliconisation of Asia' as a Zero-Sum Game of Regional Competition?

The second element of the MSC's discursive mobilisation was growing regional competition in the I.T. economy. The transformation of Malaysia's neighbours added a new urgency to imperatives of technological and economic upgrading. Specifically, intensifying competition from other technopoles - notably Singapore's 'Intelligent Island' strategy, and Hong Kong 'Cyberport' - forced the MSC into wildly futuristic 'cyberboosterism' strategies (Brunn and Cottle 1997). Like the MSC, these projects 'posit high-tech modernity and total global connectivity as a means to national success in a new technological epoch' (Bunnell 2002a: 266). The MSC was therefore in direct competition with other high-tech parks to become 'command and control centres' for multimedia research and design, information management and processing circuits of techno-social exchange for the global economy in the region.

The threat of regional competition enabled Mahathir to promote the MSC at the national scale as an imperative for economic survival and enlist national support for the project. Furthermore, growing inter-national competitiveness drove Mahathir to position the MSC as the most ambitious technopole project in Southeast Asia. In his speeches he constantly emphasised that the MSC was unique in offering a purpose-built greenfield site available for potential I.T. companies to relocate to. The MSC was symbolically constructed as the 'biggest', the 'longest', the most 'expensive', the most 'ambitious', the most 'unique', and the most 'innovative'. The hyperlatives were constant and never ending in an effort to promote the MSC as the ultimate investment location for I.T. and multimedia companies in Southeast Asia.

> 'No other country is even considering anything similar, I see the MSC as a global facilitator of the Information Age, a carefully constructed mechanism

> to enable mutual enrichment of companies and countries using leading technologies and the borderless world. Other plans may sound similar because they all use "IT", "Cyber", or "Multimedia" to market one development or another. But we are not adding new facilities to existing ones; we are building and installing the latest on a huge 15-by-50 km Greenfield site. We are not just upgrading.'
>
> (Mahathir, cited in Makur Uddin 2000: 125)

In particular, rivalry from Singapore's 'Intelligent Island' led to intensifying competition between technopole development policies. During the Mahathir era relations between Malaysia and Singapore were continually strained leading to increased regional competition on all fronts.[45] Singapore's continued prosperity since its acrimonious divorce from the Federation of Malaysia has been met with jealousy and resentment from the Malaysian government. The island state experienced rapid economic development in the 30 year period since independence whereby its wealth increased eight-fold to make it one of the world's most affluent nations (Lee 2007). No other country in the world, let alone the region, has managed so successfully to develop without the advantage of favourable locational conditions, or the plentiful supply of raw materials. Singapore's citizens experience one of the highest standards of living of any nation with high levels of home ownership, low crime rate, a developed public education system, and a stable (albeit undemocratic) political environment.

Singapore's 'Intelligent Island' strategy was enthusiastically embraced to carry Singapore and its citizens (much in the way the MSC was in Malaysia) to IT-led development in the 'information age'. The project imagined

[45] Singapore was expelled after an ideological rift between its ruling PAP party, and the federal government in Kuala Lumpur. The conflict is also rooted in ethnic tensions between Malaysian Muslim-Malay dominated government and Singapore's Chinese government. Both have accused the other of neglecting their ethnic minorities in respective countries. Conflict has arisen over several issues including: the low price of raw water paid by Singapore to Malaysia; the proposed replacement of the causeway bridge linking Johor Baru to Singapore with a new scenic bridge; Singapore's land reclamation work; the use of Malaysian airspace by Singapore's Air Force; the sovereignty of the railway crossing from Malaysia to Singapore.

Singapore society would become totally wired, and I.T. savvy. For government strategists it represented the latest in a long line of state-led infrastructure upgrading strategies - e.g. air, sea port facilities, and now telecommunications – designed to make Singapore globally competitive.

> 'Singapore will be one of the first countries in the world to have a national information infrastructure (NII). It will be a pervasive network through which every home, school, and office will be interconnected. In doing so, it will provide broadband capacity - through wired or wireless connections - that will virtually remove any constraints on bandwidth. Singaporeans will be able to conduct a wide range of transactions - business, government, or leisure related - from their own home, office, or public kiosks.'
>
> (Mahizhnan 1999: 15)

As Crang (2003b) writes, the 'Intelligent Island' strategy was geared towards positioning Singapore as regional and global informational hub through engaging in the utopian rhetoric of 'world without borders' and 'friction free capitalism'. The Singapore government therefore sought to realise the value of new technologies to move up the value chain, and perhaps more significantly to create an image of Singapore as innovative, forward-looking, and cutting edge. Couched in a similar rhetoric to that of the MSC, the Singapore strategy also aimed to make it 'a global centre for science and technology, a high value location for production and a critical node in global networks of commerce, communications and information' (Singapore National Computer Board, cited in Crang 2003b). Even prior to the 'Intelligent Island' vision Singapore had a better claim than Malaysia to compete for the title of *digital nation* due to the high penetration of internet usage. The Singaporean government has resisted public discourses of post-colonial nation building, rather instead they have emphasised the island's outward-looking nature, and open borders (albeit on their terms). With a population of 3.9 million encompassing some 700,000 foreigners, Singapore is Southeast Asia's only cosmopolitan city. The plans to create an 'Intelligent

Island' based on an always on, ubiquitous broadband network is designed to take Singapore to the edge of real (not imagined in the case of the MSC) utopia. Singapore can point to its excellent public service, housing, healthcare, low crime rights, high literacy, and high standards of living to endorse such a claim.

Symbolically, one year after the launch of the MSC, Singapore launched 'Singapore ONE' (One Network for Everyone) that showcased the cutting edge technological infrastructures Singapore had to offer as an 'Intelligent Island'. The rivalry with Singapore's 'Intelligent Island' strategy was played out in the local media as a zero-sum game in which there would only be one winner. The project in many ways stole the limelight from the MSC and ensured Singapore remained the most globally visible high-tech nation in Southeast Asia. Unlike the MSC, Singapore's strategy was clear and concise. The goal being to wire the whole island with high capacity fibre networks that allowed universal connectivity to a whole new range of public services, multimedia, and software platforms that would affect business, communication, politics etc. In effect the whole of Singapore would become one giant 'super corridor'. It envisioned an 'Intelligent Island' in which everyone was connected everywhere through a pervasive high-tech network that was planned to reach 99% of the population. The project was supported by Microsoft, IBM, NEC, HP, Reuters, Sun, and Yahoo and was intended to be a launch pad for new multimedia content, hardware and software platforms across Asia-Pacific and thus reaffirm Singapore's status as a global high-tech hub.

The Malaysian government self-consciously positioned the MSC in opposition to Singapore's 'Intelligent Island' strategy in two ways. Firstly, MDEC emphasised that at 750 square kilometres the MSC 'territory' is bigger than that of Singapore's 682.7 square kilometres. This resonates with Mahathir's mega-project doctrine that in order to make Malaysia more

globally visible it had to build the tallest buildings (KLCC), the biggest airport (KLIA), the tallest flagpole, and the longest building (Linear city).

The second example concerns the issue of Singaporean censorship of internet content, as well as with satellite TV and print media. While Singapore built some of the most advanced ICT infrastructures in the world the government has shown no intention of surrendering political control in the process (Rodan 2002). In a bid to attract global multimedia content industries (e.g. film, gaming, animation TV) the Malaysian government openly declared the MSC would not censor. In marketing materials Malaysia was (re)branded as a modern, liberal location in order to attract the global (read Western) I.T. and multimedia community. This was borne out of a fear that foreign experts may be put off from working in a perceived authoritarian environment that could stifle creativity and innovation. As this quote from an MDEC official indicates, having an open internet was as much a marketing move as a signal of a new era of political openness in Malaysia.

> 'This is changing here [the relationship between the internet, censorship and Malaysia]. Al-Jazeera coming in, as a news organisation, they are no holds barred, so I was wondering how the government will react to this. This is why they didn't move to Singapore, they wanted to put money in, but they can't say anything bad about Lee Kuan Yew, or the government. You can't get them to do that. I think the government is quite relaxed here. Now the media is global, the internet is there, so this going to happen a lot more now I think. The government here can't control it so they don't censor anymore, this was part of the MSC deal right? I mean, China tried and they have just started an ongoing battle. So the government is being a bit more mature here.'
>
> (Research Interview: Head of MDEC Creative Multimedia Cluster)

Two points can be noted. Firstly, guarantees by the state not to censor, and the promotion of a more liberal Malaysia, were based on the economic

motive of attracting foreign investment. Secondly, that claims of an unfiltered cyberspace promising the dawn of a new open, transparent democratic Malaysian society have not materialised. In September 1998 Mahathir famously ordered the arrest and imprisonment of the former Malaysian Deputy Prime Minister Anwar Ibrahim on the grounds of sodomy charges, and corruption. The underlying motive for the charges was Mahathir's fear that Anwar was planning a challenge to his leadership, and his disagreement with Anwar over Malaysia's response to the Asian Financial Crisis. This led to the formation of a large anti-government movement ("Reformasi") calling for social and economic reforms in a series of public protests. In the aftermath of these traumatic events in Malaysian politics the government initiated a crackdown on its political opponents. Those posting potential inflammatory material on the internet faced the possible fines or imprisonment. People running pro-Anwar websites were arrested, and computers were confiscated after a series of government raids censoring political thought in Malaysia.

Mahathir was often criticised for his over-frequent use of the ISA (Internal Security Act) in the 1980s to suppress political opposition. The ISA was a legacy from the 1969 ethnic riots used to imprison those seen to be disrupting Malaysian public life through inflaming ethnic tensions. Mahathir also passed a series of other laws during his time in power that were perceived to be authoritarian. These included other forms of detention without trial through the Societies Act (1966), the Sedition Act (1971), the Universities and University Colleges Act (1972), the Official Secrets Act (1972) and finally the Printing Presses and Publications Act (1988).

To summarise, projecting the image of the MSC as a business hub became as important as building the material infrastructures that would allow the MSC to become a hub. Both the MSC and the 'intelligent Island' technopole projects were self-consciously optimistic in the way they conceived the

impacts of ICTs within and beyond their own territories. In the discursive construction of the MSC high-technology became a marketing tool designed to promote Malaysia as a more technological advanced nation vis-à-vis its regional economic competitors

4.3.3. Digital Dreaming: Promoting the MSC as a Global 'Test Bed'

The MSC was (re)framed globally as a location for reterritorialising mobile transnational flows by providing a 'test bed' for MNCs. Mahathir undertook a promotional world tour to raise awareness about the MSC amongst potential foreign investors. The bulk of Mahathir's time was spent in Europe and North America, indicating which type of cultural-economic flows he wanted to attract to the MSC. At these events – ranging from international conferences and business exhibitions to meetings with elite groups of potential investors – Mahathir spoke about the MSC in terms of its investment opportunities. Malaysia was presented as a fertile territory for foreign investors with a domestic market of 25 million, and a projected 8% annual growth rate (circa 1996). Participation in the project was marketed as a "win-win" situation in which there would be shared benefits for Malaysia and foreign capital. Paradoxically, while Mahathir frequently criticised the damaging impacts of Westernised culture in Malaysia (e.g. liberal values) during his world tour he sought to superficially reposition Malaysia as an open, progressive (read globalising) state. Once again a different agenda for the MSC Malaysia was promoted across a different scale requisite to the specific political-economic agenda the state wished to promote.

The world tour incorporated a famous trip to Los Angeles billed as 'Dr. M goes to Hollywood' and attended by 'almost the entire world leadership in information technology' (*Asiaweek Magazine,* 07.02.1997). The Los Angeles visit incorporated the first IAP meeting held at Stanford University on January 16th 1997 in the heart of Silicon Valley and not, symbolically, in

Malaysia. This highly symbolic event was self-consciously designed to liken the planned MSC development to Silicon Valley. In these formative years the MSC was sold using the taglines of 'Asia's answer to Silicon Valley', or simply 'Silicon Valley East'. The Malaysian government symbolically positioned the MSC as an alternative to Silicon Valley, emblematic of the Asian 'can do' attitude and challenging U.S. economic hegemony in high-tech industries.

Ohmae was influential in arranging Mahathir's visit to Stanford, acting in his capacity as Visiting Professor of Management at Stanford Business School. The inaugural IAP meeting at Stanford attracted a famous roll call of original Silicon Valley pioneers including: Gilbert Amello (Chairman and CEO of Apple), Lou Gertsner (CEO of IBM), Lewis Platt (Chairman, President and CEO of Hewlett Packard), James Barksdale (President and CEO of Netscape), Larry Ellison (Chairman and CEO of Oracle), Scott McNealy (Chairman and CEO of Sun Microsystems). Other international attendees included Stan Shih (Chairman and CEO of Acer), Nobuyuki Idei (President and CEO of Sony). The IAP meeting partly fulfilled Mahathir's goal to bring the best minds from the 'East' and 'West' together to collaborate on the MSC project. For the MSC to succeed Mahathir realised these CEOs must be persuaded to relocate some of their brain power to Cyberjaya.

The profile of the MSC was buoyed by the support of the I.T. industry pioneers. In particular, Bill Gates - the founder and Chairman of Microsoft Corporation – was a supporter of the MSC vision.[46] Gates philosophy of 'friction free capitalism' outlined in the book *The Road Ahead* (1995) appeared to go hand in hand with the MSC vision as a global 'test bed' for new ways of doing business.

[46] Mahathir first marketed the MSC concept to Bill Gates at the Microsoft HQ in Seattle in 1996.

> 'Malaysia offers a blueprint through the MSC initiative for how a developing country can use technology to move to the forefront of modern technology. All of the technology projects in the MSC initiative involve approaches that I have called the "digital nervous system" and the "web lifestyle". These are ways to use technology to create greater efficiencies in government operations, to serve citizens better, to improve and broaden education and to help business to compete globally.'
>
> (Bill Gates, cited in Wong 2003: 290)

Gates later had a direct influence on the MSC policy as an expert advisor with the IAP, and his name was often cited on promotional documents to give the project credibility. Microsoft at one stage even planned to relocate its Southeast Asian headquarters from Singapore to Malaysia. Although, ten years on Microsoft has invested little in practical terms in the MSC project and the Malaysian government is still waiting for collaborations to materialise. Despite Bill Gates claiming that the MSC was 'awesome' (*New Straits Times*, 14.09.2000) Microsoft set up its regional R&D centre in Singapore instead pledging just RM 1 million ($264,000) to nurture Malaysian programmers. Microsoft's investment in the MSC over its first five years was $2.5 million compared to $50 million in India (Mellor 2001). It wasn't until September 2000 that Gates actually visited Cyberjaya and promises of opening an R&D centre in Cyberjaya never materialised. This irony was not lost on the satirical Malaysian cartoonist Lat who sardonically poked fun at Bill Gates' MSC no-show (Figure 8).

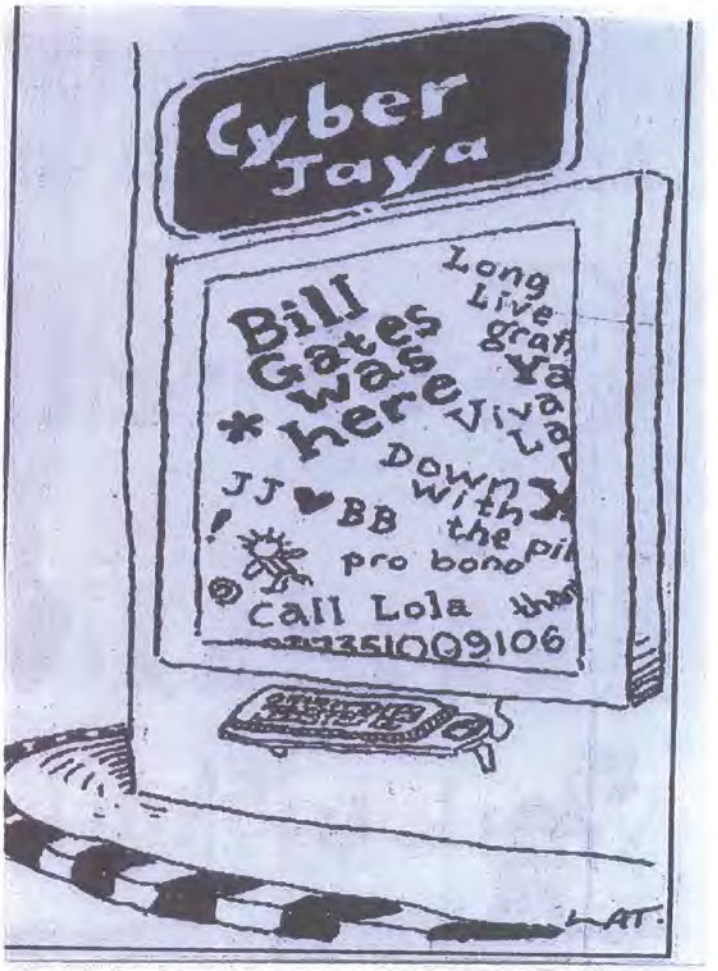

Figure 8: Lat Daily Cartoon (Source: *New Straits Times*, 14.09.2000)

The world tour was widely covered in the international press and raised the profile of the MSC within business, political, and academic circles. The MSC was frequently referred to as Malaysia's 'gift to the world' as a 'global test bed' for experimenting with new technologies and new ways of living and working. According to a former MDEC CEO this would create a 'multimedia utopia for knowledge workers by developing the ideal environment to generate creativity' (Chapter 5). The goal of the MSC was to spur domestic growth by Malaysian up-skilling and progress in indigenous IT-related industries. However, Mahathir was acutely aware that to succeed the MSC was reliant on the help from world-class foreign investors.

The MSC was presented as a selfless endeavour undertaken by the Malaysian government on behalf of the global IT community. Kuala Lumpur's *The Star* newspaper (14.01.1996) commented on how the project had ushered in a 'new wave of excitement' not just in Malaysia, but also in Singapore, USA, and Japan. The project was presented as a 'multimedia utopia' in which all races, nations were invited to participate to realise the benefits of new communications technologies in the new age of information. This was a process optimistically described by the *Asian Financial Times* (19.05.1997) as 'flocking to the cybercity'. The excerpt below from a Mahathir speech outlines how the MSC's discursive architectures were mobilised at the global scale.

> 'The Multimedia Super Corridor (MSC) concept has spread across the international community like wildfire. I think there is not a single country which does not know about the MSC. I hear people talking about MSC all the time, wherever I go, even Mongolia. They asked me about the MSC and how they can learn from it. The MSC is a giant "test bed" for experimenting not only with multimedia technology, but also, and more importantly, the evolution of a new way of life in the unfolding age of information and knowledge. The MSC is therefore, "Malaysia's gift to the world", a creation that welcomes the involvement of the global community in sharing the useful lessons of Multimedia development.'
>
> (Mahathir 1998)

Superficially Mahathir couched his speeches in the logic of neoliberal friction free economics to 'invite' global participation. However, the social and political consequences (or desirability) of this mode of globalisation were a point of concern for the state. Beneath the veneer of the 'borderless world', MNCs raise questions about territorial sovereignty and the re-scaling of state power. While seeking to reterritorialise global flows, the state does so via a national policy of containment which seeks to safeguard Malaysian vested interests. As Searle (1999) observes, whatever the economic arguments for

privatisation the *raison d'être* was political, namely, the consolidation and safeguarding of Malay elite political and economic power in securing development contracts in the MSC and maintaining dominance elsewhere in Malaysia. Chin (2000) documents further that despite this globalisation hype the economic privatisation projects mainly fell into the hands of politicians within UMNO, and to a lesser extent, MCA and MIC.[47] This resulted in the emergence of a multi-ethnic group of politically connected Malaysian tycoons at the helm of publicly listed conglomerates gradually built from vertical and horizontal integration and control of industries.

Unlike the free wheeling entrepreneurial climate - underwritten by U.S. government defence spending - found in Silicon Valley, the MSC has been subject to state control and coercion. This flies in the face of predictions that nation states are becoming 'hollowed out' and increasing powerless to resist omnipresent globalising forces. The MSC has become a 'test bed' not only for new information technology applications, but also it tests out new forms of cultural-economic governmentality. This is what Ong (2000b) refers to as 'zones of graduated sovereignty' characterised by: (a) the differential state treatment of segments of the population in relation to market calculations, thus intensifying the fragmentation of citizenship already pre-formed by social distinctions of race, ethnicity, gender, class, region; (b) the state transnational network whereby some aspects of state power and authority are taken up by foreign corporations located in special economic zones. For Bunnell and Coe (2005), the MSC was not a 'test bed' for 'multimedia utopia' but, in more practical terms, a 'zone of exception' separated from normal legal infrastructures but still linked ethnically and politically to the nation. While Mahathir emphasised the projects aspirations to become a new Silicon Valley, he often warned that it differed because 'the MSC cannot be totally uncontrolled'. Therefore, Cyberjaya became a *disciplined space* in which the

[47] The Malaysian Chinese Association (MCA) and Malaysian Indian Congress (MIC) have been junior partners in the ruling coalition government since 1969.

state could control global cultural-economic flows and manage the activity of knowledge workers and companies (Chapter 5).

The MSC became a bounded space in which new forms of economic and social activity were invited in on the one hand, and regulated on the other. It bears similarities to what Ong and Collier (2005) term a 'global assemblage' identified as 'an unstable constellation shaped by interacting global forms and situated political regimes'. For instance, the MSC is still subject to a 'Bill of Guarantees' that do not apply in non-MSC territory in Malaysia. MSC status companies are free from local ownership requirements and companies are given rights to employ local and foreign knowledge workers without restrictions. However, in order to make the project more palatable to a Malay-majority concerned about the effects of an unregulated global environment - where importantly the normal rules don't apply - the government decided to restrict the policies to a 'test bed'. Limiting the potentially harmful effects of MSC policies to a small urban corridor south of Kuala Lumpur appeared to act as a compromise for those fearing the negative impacts of globalisation. So, despite the rhetoric of the MSC offering a 'gift to the world' Mahathir was wary of the potential damage of allowing a planetary free-for-all in Malaysian territory which would be unacceptable to the majority Muslim population. However, despite the production of a fragmented zone of governmentality the state has been unsuccessful in its management of filtering which cultural-economic flows enter Malaysia and which do not (Chapter 6). In particular Malaysia's reliance on foreign capital for industrial-led development has left the state with little bargaining authority against relatively footloose MNCs.

To summarise, as the MSC was framed across multiple scales there was an ongoing tension between counter-hegemonic and hegemonic discourses of nationalism, technology, culture, and globalisation in its discursive mobilisation. First, the MSC has been framed at the national and regional scale as a *counter-hegemonic* project for technological independence to

combat the perceived negative effects of neoliberal globalisation. The MSC was created for Malaysia to reap the benefits of a perceived 'information age'. Importantly, counter-hegemonic narratives affirmed the state's awareness of their globally peripheral position as a 'developing', and 'non-technologically innovative nation'. Despite these obvious limitations, Mahathir and MDEC both promote the MSC as a means for 'leapfrogging'; thereby accelerating the transition from industrial nation to 'information society'. The only way centrality can be achieved is through citizen-led intelligent development encompassing up-skilling, increased IT literacy, and a new generation of local start up companies. Mahathir frequently positioned this as a national economic necessity to avoid being left behind in the race to enter a new global 'information age'. Secondly, the MSC has been mobilised through the *hegemonic* narrative of globalisation whereby the state must prepare national territory for global neoliberal forces to which there is no alternative. This was clearly seen in the rhetoric of the MSC becoming a 'test bed' for MNCs involved in IT and Multimedia. Mahathir framed the project to a global audience in terms of potential investment opportunities, low running costs, and locational advantages of doing business in Malaysia. While the need to attract foreign interest is essential to the project's success the regional and global promotion of the MSC has enabled the state to push its own political-economic agenda.

4.4. Locating the MSC: Journeying Along Malaysia's Information Superhighway

The closing section critiques the discursive mobilisation of the MSC as a 'multimedia utopia' by focusing on the places where an imagined high-tech transformation might take place. Juxtaposed to the ideological mobilisation of the MSC as a discursive space are the physical places intended to promote national connectivity to the 'information society' and 'new economy'. The section introduces conceptual points that are explored in the remaining

chapters relating to how below the utopian discursive construction of the MSC as 'multimedia utopia' the high-tech corridor has manifested as a splintered urban landscape which is physically proximate but relationally distant to its hinterland of disconnected, 'non-technologised' spaces.

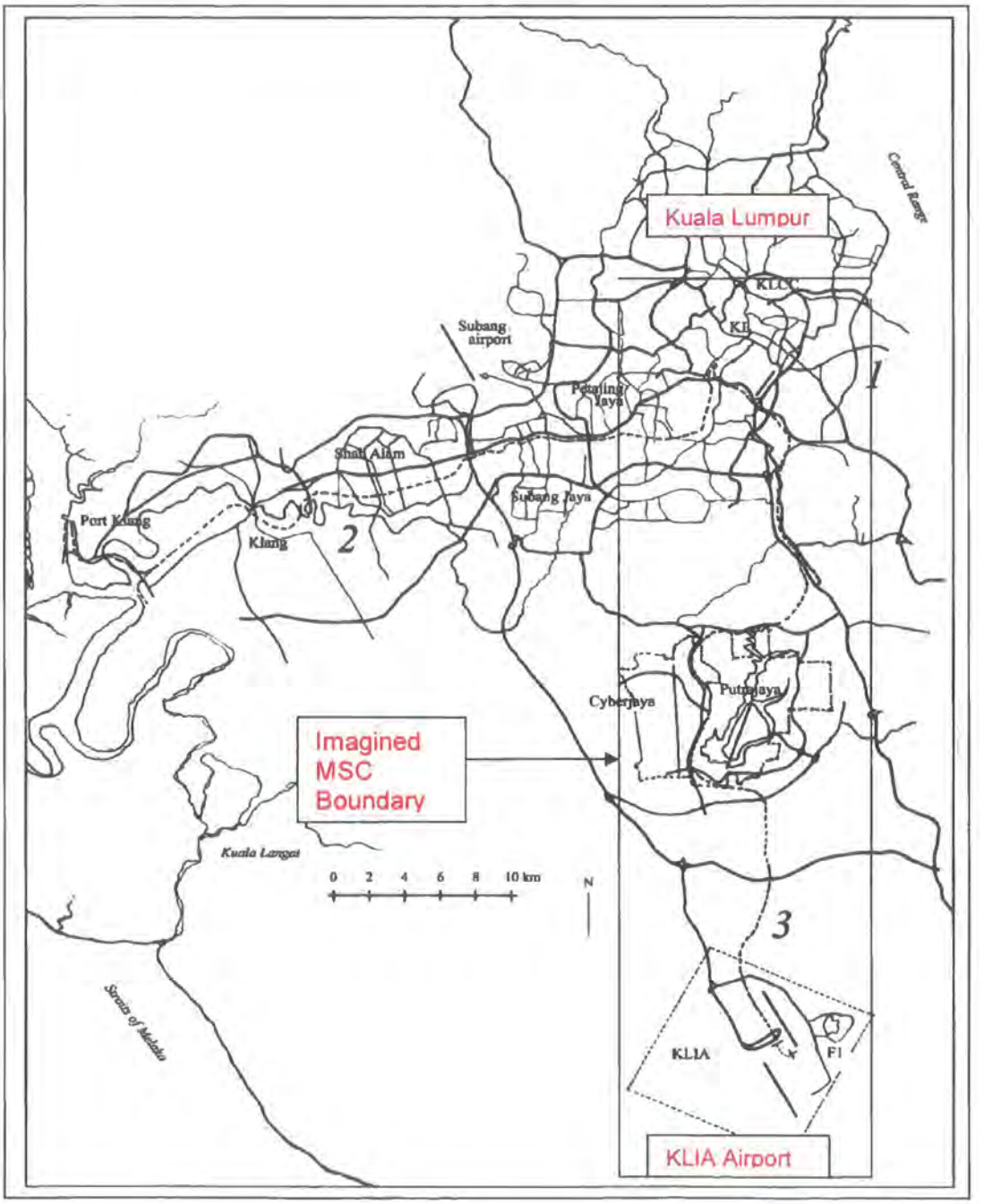

Figure 9: Imagined MSC Boundaries in Klang Valley, Malaysia.

On the above map has been inserted the imagined boundary of the MSC. However, if one looks on any official map of Malaysia the MSC is conspicuous by its absence (Figure 9). For the first-time visitor in search of Malaysia's self-prophesised 'multimedia utopia' one could be forgiven for thinking that the MSC does not exist at all. In planning documents the project is presented as a discrete urban locale, clearly demarcated from the rest of Malaysia as an extra-territorial zone for high-tech industries.

> 'The MSC is a dedicated corridor measuring 15 km wide and 50 km long. The area stretches from the worlds tallest twin towers - Petronas Twin Towers - at the Kuala Lumpur City Centre (KLCC) in the north to the new Kuala Lumpur International Airport (KLIA) in the south.'
>
> (MDEC information leaflet, 2004)

The second quote from an MDEC official offers an alternative perspective on the MSC.

> 'It started out with the physical location of the corridor, but since then it has developed a lot further and we are spreading our wings with the country. This can benefit the whole of Malaysia. It is not just a science park. It is a science park in the sense of Cyberjaya, but the concept is bigger. It is about changing the way of life in Malaysia, the way we live and the way we work. That embodies the MSC concept. Cyberjaya is not just MSC. It is bigger than that. Now it is everywhere.'
>
> (Research Interview: Head of MDEC Cybercities Division)

The quotes above present two conflicting viewpoints on the topography of the MSC that resonate with the remainder of the thesis. On the one hand the MSC has been conceptualised as a new urban technopole corridor located south of Kuala Lumpur within Klang Valley. On the other hand the MSC is framed as an abstract psychological space for promoting 'intelligent' ways of

living and being. However, as the quote below demonstrates, there is also contestation as to whether the MSC materialised to produce any tangible effects more than ten years after the project's launch.

> 'I think even the MSC, the whole concept didn't materialise even ten years on, because we talk about a corridor, a huge space of land from KLCC to KLIA. But that didn't happen. There needs to be an effort to make the corridor into a physical space. Now it doesn't exist physically just in their [the government] imagination.'
>
> (Research Interview: government worker, Putrajaya)

The thesis critically approaches the MSC to contest any sense of the project as a bounded, 15 by 50 km urban corridor. Rather, the MSC has emerged as a number of geographically splintered pockets of connectivity incorporating 'cybercities' such as Kuala Lumpur City Centre, KL Tower, Technology Park Malaysia, KL Sentral, and Cyberjaya Flagship Zone. Through a narrative journey through the corridor it is argued that the high-tech landscape of the MSC only really exists in the planning models, development guidelines as an imagined 'multimedia utopia'.

The journey begins at the northern most point of the MSC bounded by the Petronas Towers at Kuala Lumpur City Centre (KLCC).[48] The towers have been billed as the global gateway to the MSC, and along with KLIA are two centres of planned global connectivity. KLIA aspires to become a regional transport logistics hub while the towers are marketed as a global city business centre. The towers form one of a series of 'mega-projects' characteristic of recent urban developments in Asia, and is intended to mark out Malaysia on a global scale as *peringkat antarabangsa* ('world-class' in

[48] The towers are named after Petronas, the national oil company which fully occupies Tower 1, and which also provided a large amount of the financial backing for the project. Tower 2 is home to several MNCs including Accenture, Al Jazeera, Bloomberg, Boeing, IBM, McKinsey & Co, Microsoft and Reuters. The KLCC development incorporates the twin towers, the six story Suria KLCC shopping mall, the Petronas Concert Hall, adjacent office blocks including the Maxis tower, and a 20.25 hectare public park.

English). The MSC was conceived to link together several mega-projects including: KL Sentral, the biggest train station in Southeast Asia; KL Tower, the fourth largest telecommunications tower in the world; KLIA, the biggest airport in the region. Together these mega-projects constitute an iconographic landscape that has been heavily exploited in place promotion strategies to (re)brand Malaysia as 'modern' and 'developed'.

At the time of construction the Petronas Towers were the tallest buildings in the world (Figure 10). Kuala Lumpur's obsession with high-rise projects in the 1990s was a product of Mahathir's desire to (re)construct it as a 'global city' (Jeshuran 2004). Designed by the Argentine architect Cesar Pelli[49] 452 metres' high, the 88-story towers have become a signifier of national modernity. The Petronas Towers more than any other mega-project has helped to make Malaysia globally visible as a potential investment hub for global capital. Bunnell (2004) highlights the dual role of the towers in globally (re)orientating Kuala Lumpur to the world, and Kuala Lumpur to Malaysians. Bunnell notes that KLCC was thus 'not merely diagnostic of an optimistic moment in Malaysian development, but was also intended to provide a new geo-historical vantage point for would-be "world-class" Malaysia(ns)' (Bunnell 2004: 68).

[49] Cesar Pelli is the architect who designed Canary Wharf. He won a competition of international architects to design the Petronas Towers project. The final design plans were chosen by Dr. Mahathir himself. It was also rumoured that during the construction process Mahathir constantly made site visits to check on the progress of the development.

Figure 10: Kuala Lumpur City Centre (Source: Author's Photograph)

For many of the first MSC status companies (e.g. NTT, Telekoms Malaysia) in 1996-1997 the only designated 'cybercity' areas were either KLCC or Cyberjaya. Many preferred a Kuala Lumpur location to gain the benefits of its amenities, transport services, proximity to potential clients etc. However, the high cost of renting office space in KLCC meant many of these companies decided to relocate to Cyberjaya. Several companies chose to exploit the MSC's fuzzy boundaries and registered their company address within the MSC, but relocating the majority of their operations outside of it. This administrative loophole allows companies to gain the benefits of the 'Bill of Guarantees' without locating in actual MSC territory.

The inclusion of KLCC in the corridor adds important symbolic capital to the MSC. On the MSC promotional material the Petronas Towers are used despite the MSC epicentre being located some 40 km south in Cyberjaya. For MNCs locating in a signature building adds important appeal for potential clients. For example, the McKinsey global consultancy is located in Tower 2. On the McKinsey website a picture of the towers are shown, and its location emphasised as McKinsey's 'highest office' in the world. By being in the towers the company becomes more globally visible. Its global audience of potential clients and investors can identify with the towers as symbolic of progress, modernity and advanced architectural achievement.

South of KLCC the next stop along the MSC is the Kuala Lumpur tower. The KL tower stands taller than KLCC by virtue of its elevated location in downtown Kuala Lumpur. The top of the KL tower observation deck level contains a permanent visitor exhibition documenting the vision for the MSC. The display claims the Menara KL ('KL tower') is the telecommunications hub of the MSC. The gallery identifies the significance of Menara KL as 'a telecommunications tower to upgrade the quality of telecommunications and the clarity of broadcast transmissions.' The KL tower is one of a series of connective nodes (others include the MEASAT Satellite farm and the Telekoms Malaysia hub in Cyberjaya) intended to connect the MSC to the global telecommunications network.

In casual conversation with visitors to the MSC exhibition during fieldwork it became clear just how little people knew about the MSC. Invariably the MSC was something they had heard of, as "something I.T. related", but little more than that. KL tower contains no office space for MSC status companies rather it performs the role of 'functional icon' for the MSC. If KLCC is symbolic of a new national modernity, KL Tower signifies global technological connectivity. Firstly, as functional icons they serve to make Malaysian space more globally visible to an international audience.

Secondly, as architectural achievements they are embodiments of the 'Malaysia Boleh' attitude.

Opened on the 16th of April as the largest railway station in Southeast Asia, KL Sentral has been planned as the transport hub of the MSC. It was built alongside the colonial landmark of Kuala Lumpur Railway station. KL Sentral is one of a number of designated cybercities in Klang Valley allowed to house MSC status companies. The awarding of MSC status to KL Sentral served to boost the property development industry which was severely hit by the Asian financial crisis. Only a small number of companies are located at KL Sentral (the incubator has space for 10 start up companies). The re-branding of KL Sentral as 'MSC cybercity' functions as spatial camouflage to re-brand what has traditionally been seen as run down transport hub, as new exclusive residential address. This has in turn filtered out to the surrounding former industrial area of Brickfields that is now booming on the back of the development of KL Sentral and recently listed by KLUE magazine as one of the three 'hottest neighbourhoods' in Kuala Lumpur.

It is from KL Sentral that the real journey into the heart of the MSC takes place. Travellers use the Express Rail Link (ERL) specially opened in 2002 to link the MSC from KL Sentral to Kuala Lumpur international airport in the south. The ERL is the most expensive form of public transport in Malaysia at 35RM for a single trip from KL Sentral to KLIA. The journey time is approximately 38 minutes to KLIA, and 20 minutes to the Putrajaya/Cyberjaya. The ERL is noticeably much cleaner, and more pristine than the other train lines (Putra, STAR, KTM, KL Monorail) serving the Klang Valley area. The interior of the trains contain video screens with information about the service and events going on in Kuala Lumpur aimed at the professional/business community.[50] All of these factors serve to differentiate

[50] These included adverts for luxury hotels, shopping experiences and restaurants. It is expected that the people using these services would be middle-class Malaysians and foreign visitors able to afford the service.

the journey to the MSC from other journeys on public transport elsewhere in Klang Valley.

The experience of travelling down the corridor is worth expanding on. The service extends south from KL Sentral towards Cheras which is a major residential era south of Kuala Lumpur City. The train then passes through several kilometres of residential high-rise blocks characteristic of Kuala Lumpur's faceless commuter townships. When the houses disperse the track stretches into open plantation land for another 10 minutes, no buildings are in sight, just what appears to be dense vegetation. If Cyberjaya was borne out of jungle, as is a common misconception, this is where the jungle begins. The rolling hills of palm oil and rubber plantations fly past the window in a blur of green serving to disorientate, and unsettle any notion of the MSC as an urban space. Upon getting closer to Putrajaya constructing work is visible - conveying the impression to passengers that the MSC is still 'work in progress'. Shanty towns housing imported construction labour from Indonesia are visible from the train. These workers live in wooden dormitories often with limited supplies of electricity and water. This is part of the hidden underbelly of the MSC, what Bunnell (2004) has termed its 'moral geographies'. The image of squatter housing clustered together by entrances to construction sites is far removed from the marketing tag line of the MSC as 'multimedia utopia'. It is here at the epicentre of the MSC that state mobilised discursive framings starts to be unmade.

My field diary recalls the experience of alighting at the Putrajaya ERL station to make my journey to the heart of the MSC at Cyberjaya.

> 'Cyberjaya awaits. The final leg of the journey into the heart of "multimedia utopia". Yet the ERL station seems strangely deserted, eerie almost, it has this "end of the world" quality about it. The monorail line leading away to Putrajaya is half finished and offers only the vague promise of things to come. Why didn't they build it? Was it another project scaled back by the

financial crisis? Meanwhile where is Cyberjaya? The ERL station is called Putrajaya/Cyberjaya but upon checking with the ticket office I am informed Cyberjaya is a further 15 minute bus ride away. This place seems deserted. Yet, I am supposed to be venturing into the frontline of Malaysia's onward march towards Vision 2020 and high-tech utopia. I can't help but asking myself: am I missing something?'

(Field Diary extract, 16.10.2006)

As the bus snakes from the transport terminal in Putrajaya to Cyberjaya through old plantation land across newly constructed, near empty roads the lack of development becomes visible.

'Is this it? The excitement had been building for days. But Cyberjaya itself is very much under construction. A model city containing the infrastructures for potential future development without yet the impetus to make it happen. The roads that reach dead ends and remain unfinished suggests the promise of a utopian vision that was never (and may never) be realised. The city itself is sparse and disconnected, containing large faceless offices bearing the names of multinational companies. As the bus reaches the centre of Cyberjaya I see an old faded sign by the road reading "Cyberjaya: The Intelligent City".'

(Field Diary extract, 04.11.2006)

Figure 11: Entrance to Cyberjaya (Source Author's Photograph)

4.5. Conclusion: Sobering Up Time? Ten Years After 'Multimedia Utopia'

> 'All this is very bold and risky. After all, Malaysia it still a developing country. In the countryside, village life has changed little for decades. The nation lacks a strong high-tech base and is chronically short of high-tech professionals. In the view of a 16 hour power blackout that hit the entire Malaysian peninsular last year, the infrastructure seems fragile for state-of-the-art multimedia.'
>
> (*Asian Wall Street Journal*, 11.06.1997)

> 'Here we are, a small, allegedly Third World country confronting head-on the convergence of telecommunications, broadcasting and computers on a global scale even as we are still attempting to provide basic telephony in our rural villages. It is a formidable leapfrog.'

(*New Straits Times,* 15.02.1997)

These headlines from both the international press and a national editorial highlight concerns with the achievability of the MSC vision of 'going for a multimedia utopia'. The chapter has examined how at the time of the MSC launch frequent references to a new 'information age' ushering in 'new ways of living, and doing business' were commonplace. As *The Star* wrote in (14.03.1997) 'buzzwords like Multimedia Super Corridor, cyberlaws, Cyberjaya, teleshopping, telebanking, telemedicine, smart schools, virtual reality, and the internet have now become ingrained in our minds in the MSC era.'

The MSC celebrated its 10th anniversary in April 2006. This event signalled a new wave of optimism detailing the predicted future success of the MSC. Once again discursive architectures were mobilised and the MSC became the talk of Malaysia again, albeit for a few weeks. The project was re-branded with new tag lines - 'Spearheading transformation through ICT' and 'Endless possibilities through ICT'.[51] During the anniversary the status of the MSC as a 'national project' seemed to preclude any critical assessment. A government advertisement accompanying all major newspapers on the day of the tenth anniversary launch wrote:

> 'Since 1996, MSC Malaysia has greatly transformed the nation and changed the way we live. With ICT as the catalyst for socioeconomic growth, MSC Malaysia continues to play an invaluable role to attract investments and ensure the right conditions are in place for ICT based business and industries to grow. The socioeconomic growth brought about by MSC Malaysia will transform the country into a knowledge based economy and society.'

[51] The re-branding was part of the goal to position MSC as a national project in phase 2 of development: 'The re-branding of its image will give more focus to the MSC's creative multimedia content initiatives as a national project where its benefits can be reaped by Malaysians of all races and status.' (Abdullah Badawi 2006)

(*New Straits Times*, 08.04. 2006)

According to these 'official sources' everything is proceeding according to plan and by the end of the first phase the MSC has successfully created: one corridor, 50 world-class companies, launched seven flagship applications, created a world leading framework of Cyberlaws, and Cyberjaya as the world's 'intelligent city'. The ten year reports on the MSC were awash with features containing MSC success stories which included the numbers of MSC status companies, estimates of number of jobs created. The NST report estimates that in 1996 Malaysia had less than 300 IT companies but today there are over 3,400 MSC status companies.

McKinsey Consultancy produced a report in 2001 criticising the lack of progress stating the MSC had not attracted significant interest from global I.T. companies, nor had it made a tangible impact on the Malaysian economy. This presented a major setback for the MSC and ran under the headline 'Glitches Zap Malaysian Tech Corridor' in the *Asian Wall Street Journal* (26.03.2001). The McKinsey report was the first independent analysis of the MSC and provided a sober assessment of the project's achievements to date. The reports recommended several measures: award high value contracts to global technology companies; hire top managers with a strong industry record; grant special incentives to big local companies to entice them to work with smaller companies in the corridor; build more offices, residential space; and build a stronger talent pool by bringing in top universities. Reports allude to the fact that the MSC flagship applications have pushed the socioeconomic agenda but failed to bring ICTs closer to the people at large. This was confirmed by a Cyberjaya resident who observed:

> 'Basically MSC was established more than 10 years ago and even then they were promising a lot of things, I mean a lot of things. They had the city command centre, they've got um (.2), internet backbones, they've got modern high-tech infrastructure and until today they are still selling the same

things. So its pretty much what they were trying to sell before is the same thing, there is pretty much no improvement and no development, everything is still (.2) even the city command centre in Cyberjaya, which is suppose to be the intelligent hub of the city, check out the website, but its probably not been updated. It is like this with a lot of the flagship applications. What happened to telemedicine? Smart schools? I don't see it happening now.'

(Research Interview: Cyberia resident 3)

This chapter has provided the reader with a background to the ideological context and discursive architectures of the MSC. The representations of the MSC discourse do not merely allude to the technologisation or informatisation of Malaysia - they constitute, incite, and normalise this representation by promoting and endorsing a specific form of high-tech urbanity and the requisite behaviour and conduct to achieve this utopian vision. The chapter has examined how this vision was promoted by the state (i.e. Mahathir and MDEC) across multiple scales and drew heavily from the 'information society' discourses of the time. The remainder of the thesis examines how these 'discursive architectures' have been inscribed on a very physical place - the 'intelligent city' of Cyberjaya. Moreover the thesis examines the extent to which these discursive framings map onto the everyday geographies of Cyberjaya.

Chapter 5. Welcome to Cyberjaya: "The World's Intelligent City"

5.1. Introducing Cyberjaya

> 'Utopian thinking: the capacity to imagine a future that departs significantly from what we know to be the general condition of the present.'
>
> (Freidmann 2000: 462)

> 'Welcome to Cyberjaya. Come into a world blanketed by lush greenscapes interwoven with high-tech valleys and intelligent homes. All wrapped within a refreshing environment in which stress and pollution are simply unheard of.'
>
> (Setia Haruman Advert, 2005)

The chapter shifts focus from the discursive spaces of the MSC to the *physical* place of Cyberjaya. The journey south through the MSC from the congestion of Kuala Lumpur to open plantation lands immediately establishes the identity of Cyberjaya as frontier city and national project. The city is the planned "blank slate" for Malaysia's giant leap into the 'information age', and symbolically positioned as an 'intelligent city' utopia with the twin goals of preparing the nation and its citizens for a new phase of high-tech development. Cyberjaya's planners invited both the nation and the world to participate in realising the perceived benefits of ICTs in a garden city environment suitable for creative work practices. The development was not seen by the state in purely technical terms (i.e. "getting people to use IT") but, more holistically, embraced new ways of 'intelligent living' as a means for wider societal development. As the deputy director of the Malaysian Federal Department for Town and Country Planning (JPBM) remarked:

'Technology comes in the first part. Then the sustainable development into the second part of the doctrine alongside the spiritual and health aspects of the Cyberjaya environment.'

(*The Edge Magazine*, 26.05.1997)

The chapter examines how Cyberjaya became the site onto which utopian imaginings about the 'information society' were inscribed on the landscape against which the entire nation could be mapped. This process has been mobilised through transnational planning networks, and influenced by modernist planning discourse which introduced nature as a means of restoring a healthy vitality to modern urban living while maintaining a belief in the power of technology to change society. The chapter is structured according to five main sections. Section 5.2 attends to how Cyberjaya was planned to produce 'intelligent nationhood' through the provision of a high-tech urban enclave. This was conceived in technical terms through the provision of telecommunications infrastructures and 'flagship' IT applications. Both Sections 5.3 and 5.4 examine how Cyberjaya was planned as a *psychological space* fostering 'intelligent living' and working practices through transnational planning practices. Section 5.5 focuses on how Cyberjaya has become a global exemplar as 'intelligent development' discourses have been translated and inscribed in other urban locations in Malaysia and beyond. The closing Section 5.6 addresses the socio-spatial 'splintering' effects that have emerged as a consequence of 'intelligent' technopole planning practices.

Cyberjaya was officially launched on the 8th July 1999 by Dr. Mahathir. In the planning stages the city was mobilised through specific 'representations of space' (Lefebvre 1991): namely technological visions of an 'IT City', 'Multimedia City', before the name for Cyberjaya (meaning 'Cyber-success' in Malay) was settled upon. Situated centrally in the corridor, Cyberjaya is the MSC 'flagship' Cybercity and promoted as 'one of the world's leading

smart cities' (*MDEC Cybercities Leaflet*, 2005). The technological utopianism of the time was exemplified by a newspaper headline claiming 'Malaysia has entered the age of Cybercity living' (*The Star*, 05.08.1996). The government claimed that the city would usher in a new epoch that would shape the future of Malaysian urbanism.

Prior to its development Cyberjaya was a collection of rubber and palm oil plantation estates owned by Golden Hope Plantation Berhad. Following the modernist design principles adopted by its planners, local genealogies (e.g. colonial histories, vernacular) were erased from Cyberjaya's planning history. Cyberjaya's development was re-framed in promotional materials with a rhetoric of turning a 'jungle' wilderness into 'high-tech' city. This discursive re-framing followed two main themes. Firstly, plantation estates were viewed as 'undeveloped' spaces, and along with their mainly Tamil Indian inhabitants, seen to be incompatible with the rationalities of 'intelligent' development (see Bunnell 2004). This represents an interesting historical reversal of British colonial practices which emphasised the rational ordering of the landscape when justifying the transformation of rainforest into rubber plantations during the colonial period in Malaya (Sioh 2004). In an act of post-colonial intervention, the plantation was reconceptualised under Mahathir as an obstacle and removed to meet standards of discipline, purpose, and order needed for the state's drive for economic and social development. Such modernist visions promoted an aesthetic of erasure and state controlled re-inscription. Secondly, Cyberjaya was conceptualised as a *tabula rasa* and 'empty space' beckoning the unhindered construction of high-tech Malaysia. The project set in motion the 'clearing unbelievable sections of ground in an orgy of tabula rasa where it seems the act of clearing becomes an act of faith' (Koolhaas 2001). Cyberjaya's planning team perceived the plantation as their playground on which they could imprint an aspirational landscape for high-tech Malaysians who would become 'world-class' citizens.

'Basically it was jungle. At that time it was just like a blank slate. Cyberjaya was a planned city, so before we set foot on in, the government has a master plan. They had a planner come in and draw up plans for the area. He factored in towns, and residences and these things. So when we came on board our role is to implement the master plan.'

(Research Interview: former Setia Haruman executive)

The discursive positioning of Cyberjaya as a development carved out of jungle has the effect of making the urban achievement of Cyberjaya's 'intelligent city' appear more spectacular.

'It was very exciting to begin with, it was a national project you know, but it had a global outlook. You have the dynamic Dr. Mahathir leading it. Internationally it is getting good attention because this kind of thing hadn't been done before, and it was pretty special. I think to me, it is very challenging project. From Setia Haruman, which I was involved in, we were challenged by getting Cyberjaya up and running. When we first stepped foot on it, in May 1997, it was nothing you know. Just 100% palm oil plantation. So it was a big challenge, a lot of people saying it can't be done, that it was a mega-project that will fail, So for us a big challenge, but something we are proud of.'

(Research Interview: former Setia Haruman executive)

In a complex conundrum typical of Malaysian money politics, land was acquired by the state under the National Land Acquisition Act and 'parked' under a newly created government owned company called Cyberview Sdn Bhd. Cyberview have a development agreement with Setia Haruman who is the master developer of the Cyberjaya flagship zone and a private consortium of government linked companies (originally MK Land, Renong

Bhd, Landmarks Bhd, and Country Heights Holdings[52]). Cyberview are authorised to sell the land for development, and Setia Haruman are permitted to develop key flagship projects and infrastructures according to the planning guidelines set out by the JPBM[53] (Malaysia 1997).

Cyberjaya's development comprises 3 phases: Phase 1A (1,063 hectares), Phase 1B (397 hectares), and finally Phase 2 (1,424 hectares). The target population upon completion was originally set at 120,000 by 2011, although at the time of writing, MDEC have revised the figure to an ambitious 280,000 full-time residents. The current population is substantially lower, peaking at 30,000 during the day, with around 10,000 permanent residents at night.[54] Cyberjaya Flagship Zone (CFZ) is the central area of Cyberjaya and covers an area of 2,890ha (7,000 acres) becoming operational in 1998. The MSC Cybercities division in MDEC is the custodian for Cyberjaya though their role is limited to marketing work, and facilitating the move of companies into Cyberjaya.

5.2. Envisioning the Cybercity: Cyberjaya as 21st Century Urban Utopia

'This is unlike any high-tech city in the world, this is Cyberjaya.'
(Setia Haruman promotional slogan, 2006)

Cyberjaya has been imagined as 'more than just a technology park' and was planned to 'transform the social and economic landscape of Malaysia' (Research Interview: MDEC Cybercities Division). The state set about

[52] After a series of buy outs the current ownership of Setia Haruman is 75% held by MK Land and 25% held by Renong Bhd.
[53] Under this arrangement Setia Haruman, the master developer of Cyberjaya, forfeited its sale and development rights over a 252-acre plot of land to Cyberview due to financial difficulties. In return, Setia Haruman is released from a percentage of its debt obligation of more than RM 2 billion. Despite allegations of "crony capitalism" the government has stated the deal was struck along commercial lines.
[54] Such a modest population has failed to reach a critical mass to support amenities for the township. Many of the 'MSC architects' referred to this as a "chicken and egg" problem whereby companies and people would not move to Cyberjaya due to the lack of amenities, and the amenities would not move in until a critical population mass is in place.

producing Cyberjaya not just as a physical place but also as a *psychological* space (the intelligent-garden city), *textual* space (inscribed by plans and figures), and an *experimental* space (for testing new technologies). Urban futurology was prevalent in promotional claims that Cyberjaya would become a '21st century city', 'city of the future', 'zero emissions city', 'cosmopolitan city', 'city of tomorrow'. Cyberjaya sought to offer a model environment which would 'emulate the Stanford inspired setting of Silicon Valley and create a networked, creative and productive society in Cyberjaya' (Mahathir 1997b). The planners of Cyberjaya endeavoured to create not just a technopole for I.T. and multimedia industries, but more broadly the creation of a technological utopia for 'realising the technological benefits of the new information age' (MDEC MSC leaflet, 2005).

The city was to be saturated with 'state-of-the-art' telecommunications networks, a command centre, and new infrastructures were put in place to create 'truly a world first - the careful creation of a region with the infrastructure, laws, policies, and practices that will enable companies to explore the information age without the usual constraints' (Mahathir 1997). As in the modernist utopias planned by Le Corbusier et al, technology symbolised progress with the way to a better society presented in the construction in a city 'paved with networks' (Kaika 2005: 38).

The cybercity concept operated on two levels in the planning of Cyberjaya as national project. First, Cyberjaya seeks to create a wired space connected to networked 'sub-economies' in the region and beyond. Cyberjaya was planned to become a focal point for the knowledge based 'new economy' executed by ICTs. Secondly, the city exemplified the search for a yet to be discovered ideal space for realising the utopian benefits of ICTs - 'to lead in the making of a global 'test bed' of cyber-culture and cyber-society' (MDEC Cybercities Leaflet, 2007).

5.2.1. *Building a Cybercity, Creating a High-Tech Node*

> 'This cybercity is rapidly becoming a reality and fulfilling its promise to become the nucleus of the country's vision for the 21st century.'
>
> (Cyberia marketing leaflet, 2006)

Figure 12: Poster Promoting "Cybercity Living" in Cyberjaya (Source: Author's Photograph)

Whereas traditional utopias like Plato's city-state or More's urbanised island imagine a fixed, static urban form Cyberjaya was a planned machinic city of networked technological utopia (Figure 12). As highlighted in Chapter 3, notions of network transcendence have clear genealogies in the urban utopias proposed by Doxiadis and the Eksitics movement. These historical origins foreground the construction of Cyberjaya and resonate with contemporary accounts of 'anytime/anywhere' capitalism imagined by Gates, Cairncross, Leadbeater and Ohmae. Such technologically deterministic perspectives on the 'new economy' predicted the 'spatial dynamic of the

whole world will collapse to those of a pinhead' (Robins and Hepworth 1988: 156).

Cyberjaya's planning team were convinced the 'telematic revolution' and worldwide diffusion of ICTs was creating a need for post-Euclidean cities as the world became one extended 'global village' (McLuhan 1964). McLuhan's catchphrase helped to create an image of the emerging connectedness and 'simultaneity' of places in the global economy (Kirsch 1995). To survive this new global explosion Cyberjaya was planned as a networked space; a form of 'planetary scale dwelling' (Wigley 2001) which aspired to connect to any point in the planet within a continuous network. Cyberjaya's boosterists therefore presented the physical image of place connected to a global 'borderless' network across all scales.

> 'MSC will serve as a better interlink for the global village and give the world a place where the full potential of the information age can be explored without any artificial limits.'
>
> (Mahathir 1998)

> 'I fully expect that the "multicultural web" emanating from the MSC will extend beyond Malaysia's borders and out across our multicultural links to our neighbours.'
>
> (Mahathir 1998)

According to MDEC planning guidelines in Phase 2 (2003-2010) Cyberjaya will link to a networked sub-economy comprising the world's leading intelligent cities. While in Phase 3 (2010-2020) the entire MSC will contain '12 intelligent cities linked to a global information highway'. Therefore, the physical distance from the global economic nodes centred elsewhere can be overcome via telecommunications that seemingly allow for instantaneous real-time communications to anywhere, at anytime. For Cyberjaya's planners, the 2.5-10 gigabits per second fibre optic connection was to

function as the gateway to the world allowing Cyberjaya to remain always connected, always online. Cyberjaya sought to replace the need for physical proximity by electronically networking its spaces into other globally orientated spaces - e.g. global cities, and other IT hubs like Silicon Valley - via a high capacity fibre optic network.

The basis for this networked urbanism was an anti-urban sentiment that the linear city was the place of the 'old economy'. As examined in Chapter 3, 'new economy' theories conceptualised as a place of inertia, physical stasis and congestion, impeding the hypermobility needed in an era of 'anytime/anywhere' 'informationalised capitalism'. The city is imagined as congested, disordered, and chaotic juxtaposed to an idyllic, peaceful, harmonious rural setting. This anti-urban bias permeates the promotional materials for Cyberjaya which asks would-be residents: "why be stuck in traffic jam to a board meeting in downtown Kuala Lumpur when you can tele-conference from the eco-friendly city of Cyberaya?" Kuala Lumpur is re-framed as a congested city replete with its infamous long 'traffic jams' snarling up roads. The role of global economic hub for Malaysia was originally earmarked for KL, yet bad planning as well as a catalogue of urban social problems such as crime, pollution, and congestion has lowered the international appeal of the capital (Lee 1995). The city is undergoing a period of extensive urban renewal with numerous infrastructure projects – new highways, an extension to the railway network, 'slum' clearances – to improve the appeal of KL for international capital. Cyberjaya is promoted as the polar opposite to metropolitan KL, as an idealised, technologically-enabled retreat from the capital, out to a connected garden city location suitable for creative industries. Cyberjaya planners shunned the chaotic Southeast Asian urbanism of Kuala Lumpur to construct a new high-tech capital.

Figure 13: MDEC Poster Promoting Cyberjaya as a "Globally Linked" Space (Source: Author's Photograph)

In the planning documents for Cyberjaya, its physical isolation from Kuala Lumpur and geographical distance from the major markets of Europe, North America and Japan was to be overcome through telecommunications (Figure 13). For example, the MSC's 'Borderless Marketing' flagship'[55], was based on the premise of technologically plugging into the electronic circuits of the global economy.

> 'In a globalising and fast-shrinking world, businesses face unprecedented opportunities and challenges. The Borderless Marketing flagship application is developed on the premise that multimedia technology can be used by businesses more efficiently, and serve their customers better across different time zones, and effectively reaching out to new customers. The

[55] Later renamed the 'e-Business' flagship.

> traditional barriers of time, space and form will be eliminated in the process by use of technology.'
>
> (MDEC leaflet for Borderless Marketing Flagship, 2006)

The networked urbanism of Cyberjaya was planned to allow MSC companies to 'reach customers regardless of physical location', and 'interact with customers and conduct business round-the-clock' (Research Interview: Head of MDEC SSO Division). Couched in the logic of electronic substitution Cyberjaya will therefore reduce the 'compulsion of proximity' (Boden and Molotoch 1994). The physical isolation of Cyberjaya can be overcome by acquiring a new centrality as a strategic node on the global lattice of networked telecommunications infrastructures. According to MDEC (Research Interview: MDEC Marketing Division) the planning of the city as an electronic hub 'recognises the borderless and global nature of electronic business'. Just as Webber imagined being connected from a mountain top, or Negroponte from the Alps (Chapter 3) - Cyberjaya planned total connectivity from a former palm oil plantation built as a borderless technological utopia.

Cyberjaya has been planned without the traditional locational advantages of the urban form (e.g. social amenities, proximity to the CBD, transport links), instead relying on technologies to do business, and connect citizens to one another, and the city. Cyberjaya aspires to be the perfect 'edge city' (Garreau 1991) for the 'information age' where flows of bits - i.e. people, goods - can be literally substituted by electronic flows through fibre optic networks. It imagined a new technological Eden in a perfectly functioning green-field environment eliminating the social ills of the city. A schizophrenic attitude to the city was mobilised whereby the metropole (Kuala Lumpur) is scripted as a site of anomie, crime etc while the new city of Cyberjaya is imagined as a pinnacle of 'information society' civilisation.

5.2.2. The 'Intelligent City' as Cybernetic organism

> 'If MSC is at the heart of Malaysia's push into the multimedia age, then Cyberjaya is the brain.'
>
> (*The Edge Magazine*, 26.05.1997)

The planning of Cyberjaya as networked urban space was designed to promote three scalar effects: first, to globally link Malaysia to other high-tech centres; secondly, to nationally link Cyberjaya to other state cybercities so that the entire nation would become one MSC and thirdly, to link the citizens of the city together. In these terms the city would become a cybernetic organism whose tentacles stretched out into the infinite universe of Cyberspace. This networked conception of digital space articulates with Benedikt's (1992: 10) assertion that Cyberspace is: 'a new universe, a parallel universe created and sustained by the world's computers and communication lines'. This network architecture problematises the notion of the city as a fixed and bounded site for interaction:

> '....urbanisation can indeed be viewed as a process of continuous deterritorialisation and reterritorialisation through metabolic circulatory flows, organised through social and physical conduits or networks of "metabolic vehicles."'
>
> (Swyngedouw 2006: 22)

Cyberjaya planned to both reterritorialise flows through networked infrastructures and construct a space of flows within the city. The city was modelled on bio-informational metaphors of digital *circulation*, information *flow*, electronic *backbone*s, and fibre optic *arteries*. The planning of Cyberjaya as a healthy "intelligent" city links to modernist planning strategies that conceptualised human settlement as an evolving organism via the "city-as-body" (Doxiadis) or the "city as machine" (Le Corbusier) metaphors of networked circulation. Moreover, anti-urban notions of the cybernetic city had historical origins in the work of Norbert Wiener in the U.S. during the

1950s and 1960s (Wiener 1967) and implicit Cold War military strategies of command, control, communication and information (Bishop 2004). These military origins of 'information society' discourse with its emphasis on speed and circulation has been explored further by Matterlart (2003).

The chapter does not wish to suggest that Cyberjaya's planners modelled the city directly on the networked utopias and military-industrial complex of Cold War America. Moreover, what can be highlighted is how the planning vision for Cyberjaya as cybernetic organism has historical precursors in notions of circulation, control and information that have now become essential to government and business practices globally. Specifically, the way in which Cyberjaya's planners conceived the city as an ICT enabled information processing node for the creation/management of 'intelligent' people and linked into a global grid of command centre points for the information economy.

Cyberjaya was conceived as one efficient machine for the management of people and communications with closely calibrated parts operated from a central command hub. Costing 150RM million (£23 million), the City Command Centre (CCC) was the centrepiece for the 'intelligent city' vision[56] which lent credence to state claims of a 'world-class' urban site. The CCC was the planned 'nucleus' for the city; an electronic brain that integrates technology, the city, and its citizens into a functional whole. The design of Cyberjaya as cybernetic city correlates with Wiener's (1967) predictions about the capacity of new machines to function as communicative organisms and regulate social relations by supplementing human intelligent and complements.

[56] The CCC was developed by SH Technology, a subsidiary of Setia Haruman, responsible for constructing the telecommunications infrastructure in Cyberjaya. After the first two years of its operation SH Technology handed the facility over to Majlis Daerah Sepang who are the local council for the Cyberjaya area. The council staff were tasked with the day-to-day operations of the CCC facility.

Figure 14: Cyberjaya City Command Centre (CCC) (Source: Author's Photograph)

> 'The dynamics for humans, environment and technology have harmonised in the world we live in. Here in Cyberjaya, the City Command Centre (CCC) is the core that will implement and spearhead the overwhelming changes in the way a city is managed.'
>
> (*In.TOUCH Magazine*, 2003)

The CCC has two principle functions. First, the CCC functions as physical hub and 'nerve centre' for the telecommunications infrastructure in Cyberjaya. It contains large server rooms in the lower-ground floors, and redundant infrastructures. Cyberjaya's 2.5-10 gigabits infrastructure is centrally operated through CCC. Secondly, CCC was planned as the driver of the city management applications that would enable Cyberjaya to become intelligent space. These applications ranged from traffic management and surveillance, to community portals, to, at one time, Cyberjaya's own

television and radio station operated from CCC. Integrated community functions include an online portal whereby residents can pay bills through EBPP (Electronic Bill Presentment and Payment); CyberjayaNet (the local web-based e-mail system; information kiosk where information about Cyberjaya can be accessed (at a planned 10RM per hour).

> 'A 2.5-10 Gigabits per second fibre optic network, with 99.9% performance guarantee on uninterrupted communication. A fully integrated city command centre which monitors and manages transportation, utilities and public amenities. A citywide broadband network with high speed internet access and interactive community services. A back-up power grid which will further be supplemented by alternative energy sources. All in the heart of MSC...Cyberjaya, what century are you living in?'
>
> (Poster Caption in Cyberia Crescent Sales Gallery, 2006)

> 'When the Cyberjaya City Command Centre is fully operational, it will write history as the first command centre in the world to fully integrate three major city management systems encompassing utilities, and municipal services, community services and transportation.'
>
> (*The Star*, 31.03.2003)

The 'intelligent city' was conceptualised as an autonomous techno-ecological system immersing citizens in a new environment, to produce specific technologically determined effects. As well as connecting to any point in the globe, Cyberjaya's networked infrastructures were planned to bring technology closer to the people. Simultaneously people have been cast as mere components of a bio-informational system that they cannot control. The pervasive network is imagined to affect all citizens in equal ways through a series of 'flagship applications' aimed at broader socioeconomic development. Communication between points (e.g. smart homes, companies, CCC) in the network is seen to breathe life into the organic

organisation of the city, and therefore resuscitate the economic life of the nation at large.

The provision of a ubiquitous digital network was promoted by the state as a democratic exercise, premised on an assumption the internet will create a new interconnected, inclusive public sphere. These utopian predictions have historical precedents in early models of the 'wired city' (Dutton et al. 1987) that were essentially utopian social experiments that embodied visions of electronic democracy, education and social interaction. In Mitchell's (1995) *City of Bits* a new 'electronic agora' redefines our notion of place, community and urban life. Such egalitarian 'information age' discourses are based on the assumption that the rise of digital communications media, and the new flexibility of interactive, any to any communications can fashion a more interconnected, inclusive and democratic society.

The "E-government" and "Telemedicine" flagship applications embraced the rhetoric of egalitarian technological connectivity between citizen and state. The flagship applications were planned to effect citizens (via e-voting, filing tax returns, registration of births, deaths etc), business (business registration, tax payments, government interactions) and government employees (online forums, video-conferencing, electronic work flow systems). New web kiosks and internet portals were to connect citizens to government regardless of their location in a way never seen before in Malaysia, or even the rest of the world.

> 'The electronic government initiative uses multimedia technologies to transform the way the government operates. It seeks to improve the convenience, accessibility, and quality of interactions between citizens, the private sector and the public sector. Electronic government simultaneously improves the speed and quality of information flow and the processes of policy development, coordination and enforcement.'
>
> (Research Interview: MDEC Cybercities Division)

'Telehealth' is another 'frictionless' flagship. In an MDEC promotional leaflet 'industrial age' medicine is describe as 'physical, centralised, and fragmented' contrasted to 'information age' healthcare is seen as 'virtual, distributed, and integrated'. With teleconsultation any user (connected to the network) can communicate with their doctor. The state outlines how the average Malaysian will experience healthcare in a new way as: 'telemedicine allows a patient to go home and undergo rehabilitation under the constant supervision of a physician via videoconferencing' (*Malaysian Business*, 01.14.1997). In both flagships, ICTs here are seen to *flatten* Malaysian national space and affect all citizens in a similar way as, by phase 3 (2010-2020) all of Malaysia becomes one MSC. However, as my later analysis demonstrates, such utopian predictions ignore uneven access to I.T., their selective distribution amongst the population and the material effects of socio-spatial dividing practices which networked infrastructures engender. Furthermore, as Chapter 7 highlights, the implementation of these strategies under the guise of liberation masked state goals of control and management of its population.

5.3. The "World's Intelligent City": Transnational Planning Practices in the Making of a Global Space

> 'Cyberjaya: where man, nature and technology live in harmony.'
>
> (Setia Haruman promotional leaflet, 2006)

> 'Cyberjaya, the world's first truly intelligent city. 7,000 acres planned and built bottom up. Incorporating the most advanced city management systems, world-class IT infrastructure and a healthy respect for the environment...Cyberjaya, which century are you living in?'
>
> (Poster in Setia Haruman sales gallery, 2006)

> 'Cyberjaya, is a city designed to provide the physical and psychological spaces needed for creativity, the pursuit of information age technologies, and business and relaxation.'
>
> (Mahathir 1997)

The section elucidates how the planning of Cyberjaya as 'intelligent city' draws upon modernist urban planning traditions that were mobilised through transnational planning networks and practices. Cyberjaya was conceived as an eco-friendly city of the future where lush tropical landscapes, parkland would create a 'green high-tech city conducive for creativity centred work' (*The Edge Magazine,* 26.05.1997). The framing of Cyberjaya as an urban utopia links to: (a) how ICTs were imagined as an enabler of pastoral retreat out of the city; and (b) idealised notions about what the technologically mediated city of tomorrow should look like. The resulting model of the 'intelligent city' can be seen in the context of other modernist utopian schemes (e.g. the *Garden City, Broadacre City, Radiant City*) that provided spatial alternatives to the traditional urban centre. This is not just a technical vision based on simply wiring physical spaces with fibre optic cables; it encompasses the goal to create a *psychological space* conducive to creativity.

The promotion of Cyberjaya as a literal 'field of dreams' (*Fortune Magazine,* 18.08 1997) represents a conflation of the technological imagination of Cyberjaya as cybernetic city and the urban imagination of Cyberjaya as garden city. In contrast to Kuala Lumpur, Cyberjaya was promoted as an ideal live/work environment both in terms of high-tech connectivity and creating a space for work in the 'new economy. In common with high-tech futurism a move from an urban to rural setting is seen to offer an idyllic, romanticised vision of physical isolation, but being connected to the world via a ubiquitous network. A technologically enabled rural retreat seeks to realise Toffler's vision of the 'electronic cottage' or Webber's 'non-place urban

realm'. In the post-urban utopia of the 'intelligent city' everyday life will be conducted through depthless, electronic non-space abolishing geography and proximity in one click.

The 'intelligent city' aspired to replicate two global planning exemplars. Firstly, as the next chapter examines, Cyberjaya strives to replicate the world's premier technopole development and emulate the entrepreneurial culture of Silicon Valley. Secondly, the focus of this section is how Cyberjaya emulated the garden city 'model'. Cyberjaya's goal to build a new 'ideal city' is placed in the context of the utopian modernist movement and a desire to incorporate man, technology and nature into one integrated whole. While Cyberjaya was a product of Mahathir's high-tech push its development has been heavily influenced by Anglo-American modernist planning discourses about technology and nature. These discourses have been reterritorialised through transnational planning practices that subsequently script ideologies of the 'intelligent city' onto the *tabula rasa* of Cyberjaya.

The planning blueprint for Cyberjaya was devised by 13 Malaysian planners at the Malaysian Federal Department of Town and Country Planning (Jabatan Perancangan Bandar dan Desa or JPBD), alongside one American planning firm (KCV+RNL Designs[57]), and one Australian firm (Burchill Partners Consulting[58]). Both of these firms were invited by the state to consult on Cyberjaya's planning and design process. Despite Mahathir's 'Asian renaissance' sloganeering (Chapter 4), the Malaysian government was keen that 'foreign expertise' should participate to both give the MSC international credibility, and to supplement the skills of existing Malaysian planners within the JPBD. The thesis avoids conceptualising these development plans as the simple diffusion of 'Western' planning techniques

[57] This is the one of the largest, design, planning and civil engineering firm in the U.S.. They were chosen to provide expertise partly due to their successful involvement with KLCC.
[58] Burchill Partners is a major Australian civil and structural engineering, and planning consultancy firm. They were the lead firm on the development of the planning guidelines.

and doctrines to a post-colonial setting. Challenging an image of the Malaysian state as passive or impotent in the planning process, the chapter observes how the state played an active role in the adoption of the 'intelligent city' ideal.

The self-promotion of Cyberjaya as global planning exemplar can be linked to two transnational processes. Firstly, the 'intelligent city' can be interpreted as a 'corporate global strategic calculation' (Ruggie 1993) to add important symbolic capital to the state's high-tech push, and the (re)positoning of the nation vis-à-vis global flows. Secondly, Cyberjaya is an 'imported' urban model mobilised by the spread of transnational planning practices that has supplanted specific urban design principles from the 'West' into 'non-Western' contexts (e.g. new urbanism). Despite Malaysia posturing about a rebirth of Asian culture, the states drew upon 'Western' urban design, planning and development models. This process is not necessarily coercive, but mobilised through dynamic hybridised interactions between local actors and a network of 'foreign experts'.

5.3.1. Transnational Planning Practices

As part of the state's drive for global competitiveness it hired global consultants (e.g. Toffler, Ohmae, Gates), firms (e.g. McKinsey, KCV+RNL Designs, Burchill Partners Consulting), and architects (e.g. Cesar Pelli on KLCC, Kisho Kurokawa on KLIA, Robert Burle Marx on KLCC Park) to help formulate the urban component of MSC's ideological grand vision. These experts had knowledge and experience in working on global city formation projects elsewhere. For example, the Argentine Cesar Pelli had worked on numerous world-class projects including Canary Wharf in London, and the World Financial Centre in Manhattan; Kisho Kurowaka, a Tokyo based Japanese architect had designed Sony Tower in Osaka and the Melbourne Centre in Australia; and the late Brazilian landscape architect Roberto Burle

Marx was known for his work on the boardwalk along Rio de Janeiro's Copacabana Beach.

In a global context, these planning and consultancy firms are central actors in the discursive constitution of transnational flows through the production of images, brochures, planning models. Their expertise is an 'international commodity' (Pawley 1992) which is instrumental in shaping the urban form through a series of mega-projects in Malaysia (e.g. KLCC, KLIA, Cyberjaya). All of these projects have been designed entirely, or in part, by foreign experts enlisted by the state to construct an urban vision for a modern, developed Malaysia. These actors literally inscribe specific planning discourses on the landscape in strategic sites in a specific time and place. The 'intelligent city' aspires to become a global exemplar for transnational planning practices as a successful model which can be marketed around the world, and translated to other national contexts.

A very small number of elite architectural and planning firms are responsible for high profile commissions throughout different locations across the globe. Olds (2001) and Rimmer (1991) have called these individuals a 'global intelligence corps'. These architects and planners (e.g. Norman Foster, Richard Rogers, Rem Koolhaus, Jean Nouvel, Cesar Pelli) play a significant role in the transnational creation of images, ideas, expertise, technology, and development models which are often rooted in the modernist tradition. In particular, they have been influential in the preparation of new urban spaces with the goal of becoming an 'investible location' or nodal point through which global flows (e.g. capital, MNCs, tacit knowledge) may pass. Cyberjaya was constructed not by a specific signature architect, but a series of global consultancy firms and advisors.

The current wave of neoliberal economic development, characterised by growing inter-urban competitiveness and entrepreneurialism (Hubbard and

Hall 1998), has created a new demand amongst the 'global intelligence corps' for architectural and planning services for aspiring cities, regions and states. Nowhere has global urban transformation been more visible in the aspiring global cities of Asia including Singapore, Hong Kong, Shanghai, Tokyo and to a lesser extent Kuala Lumpur. The Asian economic boom of the 1980s continuing into the 1990s led to an acute demand for urban planning, development, and architectural expertise in a growing economic region. In the wake of modernisation and growing inter-urban competition many Asian cities were repositioned, and therefore rebuilt, to enhance their appeal to global capital (see Yeoh 2005). In particular, state development of technopoles as global investment hubs for I.T. and Multimedia companies has gained ground as a strategy for ensuring global visibility in a competitive world. Flagship projects are further enhanced by the presence of a prominent architect, designer, or consultancy firm involved in the project (e.g. Cesar Pelli, McKinsey on *MSC*, Jon. A. Jerde on *Hong Kong Cyberport*).

There are historical precedents in the enrolment of GIC elites and their utopian planning strategies in transnational networks. Bristow (2000) observes how the British colonial administration imported expert knowledge from across the commonwealth in the development of town planning in the Federation of Malay states (e.g. Captain Richards from Singapore and Charles Reade from New Zealand).[59] In the global context, during the Cold War in the 1950s elite architects and planners (e.g. Doxiadis, Le Corbusier, Lloyd Wright) were invited by puppet regimes supported by the British-American 'coalition' to design many new towns throughout the Middle East and Africa (Provoost 2006). With U.S. support, Doxiadis designed and built cities all over the world in Ghana, Zambia, Sudan, Lebanon, Pakistan, and Iraq.

[59] The name of the colonial antecedent to modern day Malaysia.

Le Corbusier - working at Congrés Internationaux d'Architecture Moderne (CIAM) - was the ultimate urban modernist who produced numerous highly influential utopian city plans. Most of his urban blueprints were wildly futurist, though he did play a significant role in urban modernisation programmes in post-colonial India (Chandigarh) and Latin America (Buenos Aires) (see Novick 2003; Kalia 2004; 2006). Lloyd Wright was equally vanguard, and mobilised garden city ideologies in his plans for Broadacre City. Such large-scale development projects were often rooted in modernist planning principles that were philosophically supportive of rational and objective orderings of the built environment (e.g. zoning, grid patterns). For example, Le Corbusier's grand urban designs embraced huge, machine age, hierarchical, centralised cities to create ordered, harmonious societies. Cyberjaya doesn't strive to emulate the pure Cartesian forms of Le Corbusier's utopias. Instead, it combines pastoralism with the bio-informational metaphors of the telecommunications age (e.g. flow, circulation). As with the construction of Cyberjaya, no compromise was made with the pre-existing city; the new design plan completely supplants and writes over its predecessor.

While critics in the West have lamented the 'crisis of modernist urbanism' (Pinder 2002), planning utopias are still highly influential today. These models directly appeal to state led planning strategies mobilised in East and Southeast Asia (Douglass 2000). 'Urban mega-projects' (Olds 1995) have been planned by government technocrats who promote utopian planning models for the public good. As Ward (1999) argues, in his theory of global planning diffusion, these planning exemplars are 'imported' as much as they are 'exported' by a GIC. Malaysia, like other states in Asia-Pacific, provided many projects during the 1980s (during the Kuala Lumpur property boom) and in the 1990s (during rapid economic growth) up until the financial crisis when state spending was tightened, and mega-projects rolled back. Significantly, the MSC offered an unprecedented 'global contract' in terms of

its size, scope, and state support. Modernist planners rarely had the opportunity to carry out development projects on such a gargantuan scale. Therefore, the project could provide an international consultancy with the opportunity to build a signature development and enhance its own global reputation.

> 'When MSC was first muted the world started to take notice. Not just the international press, but also the big consultancies who wanted a slice of the pie. It was a big opportunity just with the scale and size of it all.'
>
> (Research Interview: Marketing Manager, Cyberview)

It was a project supportive of modernist approaches to city building based on technocratic planning models whereby all powerful master planners would demolish the city and replace it with his/her own utopian vision. For global planning consultancies their models represent a uniform concept which should work equally well for all cities regardless of location (Chapter 6). Often GIC planning firms and consultants export their 'global blueprints' to nations where they have precious little understanding of the local social, cultural, political and economic context. As is typical in the modernist tradition, none of the plans for Cyberjaya make obvious reference to the urban history, traditions, or the aesthetic tastes of the place in which it is to be located. This chimes with Le Corbusier's suggestion that new calculations should start from zero with city planning starting from a "blank piece of paper".

5.3.2. "You See We Have the Lake": Building a Garden City Utopia

In the construction of Cyberjaya as a garden city, urbanised nature was re-framed as a moralising force sanitising the untamed, and uncivilised 'non-intelligent' spaces of the jungle. The planned spaces of Cyberjaya were seen to ecologically determine desired 'civilising' effects upon its citizen-subjects, preparing them for intelligent-led development. Modernist epistemologies

can be traced back to the planned utopias imagined by the likes of Ebenezer Howard, Frank Lloyd Wright, and Le Corbusier.[60] Planners by name, these futurists set out a vision for building cities that incorporated man, nature, and new technology in a harmonious whole in the hope that it would lead to moral reform, and in turn, the evolutionary transformation of society. While none had their utopian visions realised in their entirety all had a highly significant impact on urban planning in the twentieth century. All three set out models of 'ideal' types of cities, which have been diffused throughout the world via the transnational diffusion of planning ideas and practices (see Nasr and Volait 2003).

The design principles for Cyberjaya have much in common with Howard's garden city.[61] Central to his vision was the model of a self-contained pastoral community far from the disrupting influences of urban life as the utopian model for a new society. Like Le Corbusier, he viewed systematic, rational, and "scientific" planning practice as the solution to social ills. Howard's work influenced a new suburban tradition of British New Towns exemplified in the construction of Milton Keynes. In the 1920s and 1930s the garden city ideal was transplanted from England to the USA. Direct followers of Howard include Patrick Geddes and Lewis Mumford who spread the garden city idea. In the U.S. the garden city movement was seen as an attempt to re-embrace 'the American way of life' and tackle the problems of urban lawlessness, loss of community, and excessive mobility that broke down social ties. With increased mobility, mass car ownership and plentiful supplies of inhabitable land, America was the perfect setting for the realisation of the garden city utopias. An idealised retreat to nature is best exemplified in nineteenth century American pastoralism - outlined by Thomas Jefferson, Ralph Waldo

[60] The visions of these three pioneers could be traced back further to Frederick Law Olmsted (1822-1903) who pioneered and dominated the urban parks movement.
[61] In 1899 Howard founded the Garden City Association, which went on to build England's first garden city, Letchworth in Hertfordshire. Howard's vision was truly utopian and an attempt to construct self-sufficient communities dispersed through the land whereby town and country could be combined in a harmonious manner. Howard's garden city vision had a profound impact on city planning which went beyond the planned utopias of Letchworth or Welwyn Garden City.

Emerson, Henry David Thoreau - which constructed a utopian vision for life beyond the city, and saw technology as the primary vehicle to make it happen (Marx 1987).

In the early 1930s Frank Lloyd Wright's Broadacre City project planned for the mass decentralisation of American cities, and a retreat to an (imagined) rural landscape. Where Cyberjaya imagines telecommunications as the means for overcoming geography, Lloyd Wright (like Bel Geddes) foresaw the motorcar and telephone signalling the 'death of distance'. Lloyd Wright argued this would give rise to a new kind of 'anti-spatial' community based on individualism and self-reliance away from urban centres. He believed that through these new technologies the dense urban conglomerations found in places such as New York or Chicago would simply wither away and become a thing of the past.

Seaside and *Celebration* townships in Florida are contemporary examples of North America's 'New Urbanism' pioneered by Miami based architects Andres Duany and Elizbeth Plater-Zyberk. 'New Urbanism' seeks to recreate idyllic communities based on the garden city model. Both Seaside and Celebration[62] are influenced by Lloyd Wright's planned utopias and constructed as throwbacks to old town America with white colonial houses, enclosed by picket fences, surrounded by substantial tracts of common land (Archer 2001). The Malaysian government organised a team of MDEC officials alongside Cyberjaya's JPBM planning team to undertake a fact finding tour of model U.S. cities during the design consultation process for Cyberjaya. Their trip to Celebration was one stop on a tour which took them to various garden city influenced locations in California, USA, including San Jose (Silicon Valley), Redwood Shores (San Francisco), and Irvine

[62] The film was used as the setting for the *Truman Show* (1998) in which Jim Carey plays a man trapped in a utopian world constructed as a reality TV show following the life of the unsuspecting central protagonist Truman Burbank.

(California). All are planned real estate projects designed to create exclusive planned suburbs comprising luxury properties.

Cyberjaya's planners wanted to reassert a similar neotraditional sense of place and community in order to create a utopian space for the post-industrial age embedded in assumptions about the psychological and spiritual benefits of urbanised natures. However, while Cyberjaya's plans (2000) drew selectively on Howard's garden city ideals they politely ignored his concerns for democratic planning, equality and social ownership of the land (McKenzie 1994; March 2004). Instead the socialist utopia of the garden city was replaced with a globalised free market 'revanchist utopia' (Baeten 2002) which directly appeals to Cyberjaya's middle-class aspirations. As a consequence, the cottage architecture of the British garden city has been usurped with a new capitalist aesthetic of corporate offices for MNCs (Chapter 6) and gated communities for the international community (Chapter 7).

The planning process in Cyberjaya was not a simple case of transplanting global exemplars into a national territory through the transnational diffusion of modernist planning ideas. In particular, the state expressed a desire for references to 'vernacular architecture' and 'tropicality' (Lepawsky 2005). These genealogies can be mapped as a cross-pollination of Southeast Asian architects and the 'pedagogical theologies of Western architecture schools' (Easterling 2005: 52). As a national project, the designs for intelligent cities - Cyberjaya and Putrajaya - contained plans incorporating Islamic architecture, design principles, and symbolism in order to appease the Malay-dominated government's claims of cultural ownership. However, in the final version, Islamic features were watered down in Cyberjaya in order to enhance the location's appeal to global MNCs. Cyberjaya produced an imbroglio of concrete and glass spaces of perfunctory modernist offices parks interspersed with intermittent references to 'locality' (Chapter 6).

The transnational nature of the planning processes serves to contest any binary notion of the GIC as 'global' versus the JPBM as more authentically 'local'. Within JPBM all of the Malaysian planners who worked on the planning guidelines for Cyberjaya were educated in UK planning schools. This is not to suggest that they underwent 'post-colonial indoctrination', however, evidence suggests they were directly influenced by Anglo-American planning principles. As Lepawsky (2005: 707) noted, some of these modernist planning tendencies relate to assumptions about: 'notions of sub-urban, middle-class urban design conventional in specific North American cities as universally applicable to, and desirable for, the broader national developments.' For instance, Cyberjaya contains gated communities, condominiums, a Street Mall all of which are evidence of 'non-indigenous', non-Islamic planning practices. The technopole, the garden city, the eco-friendly city planning concepts are evidence of broadly non-contextual foreign 'implants' into Malaysian urbanity. This exemplifies how modernist planning practices create urban models which are inserted over, and into local spaces.

Transnational planning networks and practices play an important role in reterritorialising specific planning discourses in national space, which in turn, influence state urban planning policies. To summarise, modernist plans for the garden city have been mobilised in Cyberjaya through transnational practices. This has occurred through several means: firstly, through the employment of international planning and consultancy firms to assist the state in developing the MSC vision; secondly, 'expeditions' by government planners to exemplary global spaces for garden city planning models in the USA; and thirdly, the training of Malaysian planners from JPBM in Anglo-American planning schools. Often urban utopian visions remain only cities on paper, and many observers have argued that the utopia is destroyed once planners attempt to build it (the same could be argued about

Cyberjaya). However, as the following quotes illustrate, for Cyberjaya's planners the 'intelligent city' represented a genuine attempt to conflate the technological infrastructures of the cybernetic city and the bucolic urbanism of the garden city. In doing so they fused two diverging technological and urban imaginations in a viable model for Malaysian urbanism.

> 'I think we were building something like an ideal city. The tag line we used was a place where man, nature and technology lives together, so it is like a sci-fi vision. The only difference instead of high-rise, it was low-rise, and very eco-friendly.'
>
> (Research Interview: former executive with Setia Haruman)

> 'Yes, we have been the real pioneers. We provided the totality, the blue-print for all of this. We have the environment here to utilise it in business, in living, and in play also. So you can do all three here because it is a self contained intelligent city. We have all the infrastructure also the natural surroundings and these things. You see we have the lake, it is all planned in the infrastructure. This is the unique thing about Cyberjaya. It is an eco-friendly place, a manageable landscape.'
>
> (Research Interview: Senior Planner, Setia Haruman)

5.4. Towards Ecological Determinism?

In modernist planning epistemologies the city was not a place where inhabitants determined its role in their daily lives, rather, the city determined the roles of its inhabitants. In Cyberjaya, the state desired to create particular subject positions through design which would transform the inhabitants into modern subjects who could fill these positions. The design of an 'intelligent' garden city more 'in tune' with the rhythm of nature was planned to create a harmonious society. The section examines how Cyberjaya was mobilised as: (1) a psychological space for creativity; (2) a disciplined space for productivity.

Firstly, Cyberjaya was engineered as a *psychological space* in which its inhabitants would be able to think, create, and innovate. As with the garden city of Howard, attachment to the land was seen to be morally beneficial enabling the inhabitants of Cyberjaya to live away from the perceived social ills and disruption of the city. To achieve this 35% of land in Cyberjaya was set aside as green spaces of vegetation, parkland and water features.

> 'Low density buildings, well-planned neighbourhoods with waterfront houses, public parks and promenades are some of the enhancing attributes of Cyberjaya.'
>
> (*The Star,* 31.07.1997)

> 'Cyberjaya sets the standard for modern-day living within a stress-free environment.'
>
> (Setia Haruman information booklet, 2006)

Cyberjaya contains two large man-made lakes, two parks. Cyberjaya's flagship Cyberpark (nearly everything in Cyberjaya comes with the 'cyber' prefix) is the largest green space. The park is symptomatic of Cyberjaya's sylvan landscaping and modelled around a central lake consisting of several wooden walkways branded as '460 acres of inspiration' (Research Interview: Marketing Manger, Setia Haruman). The promotional brochure invites the reader to 'cross the floating boardwalk wander past the water lily lakes until your find yourself alone on an ethereal island populated by thousands of restless wind chimes' (Promotional Advert: Setia Haruman 2003). The design of the park was to create a cerebral environment suitable for relaxation and psychological well-being in order to 'coax the senses into slowing down'. This was based on ecologically deterministic assumptions that the creative subject needs so many square meters of living space, so much fresh air, so much sunlight, so much open space, or so many endless jogging trails in order to function as an 'intelligent citizen'. The garden city

design principles seek not just to promote R&D activities, but moreover, to promote R&D as a way of life. As a former MDEC CEO remarked at the time, 'we are aiming to create a 'multimedia utopia' for knowledge workers by developing the ideal environment to generate creativity'. In the planning of Cyberjaya a link was made between the provision of green spaces and the ability to foster creative live/work practices in the city.

Furthermore, in the planning guidelines (Malaysia 2000) Cyberjaya was to become an 'environmentally-friendly' zero-emissions city through energy conservation, recycling schemes, and measures to prevent pollution. Cyberjaya was intended to be a car-free campus city with transport systems based on plans for a 'solar-powered people-mover' that would harness the tropical climate in an environmentally-friendly manner (*The Star,* 04.06.1997). A smart refuse disposal system was planned to channel Cyberjaya refuse away from the city and be disposed of elsewhere via a large network of underground pipes. Both projects were halted after the 1997-1998 Asian Financial Crisis.

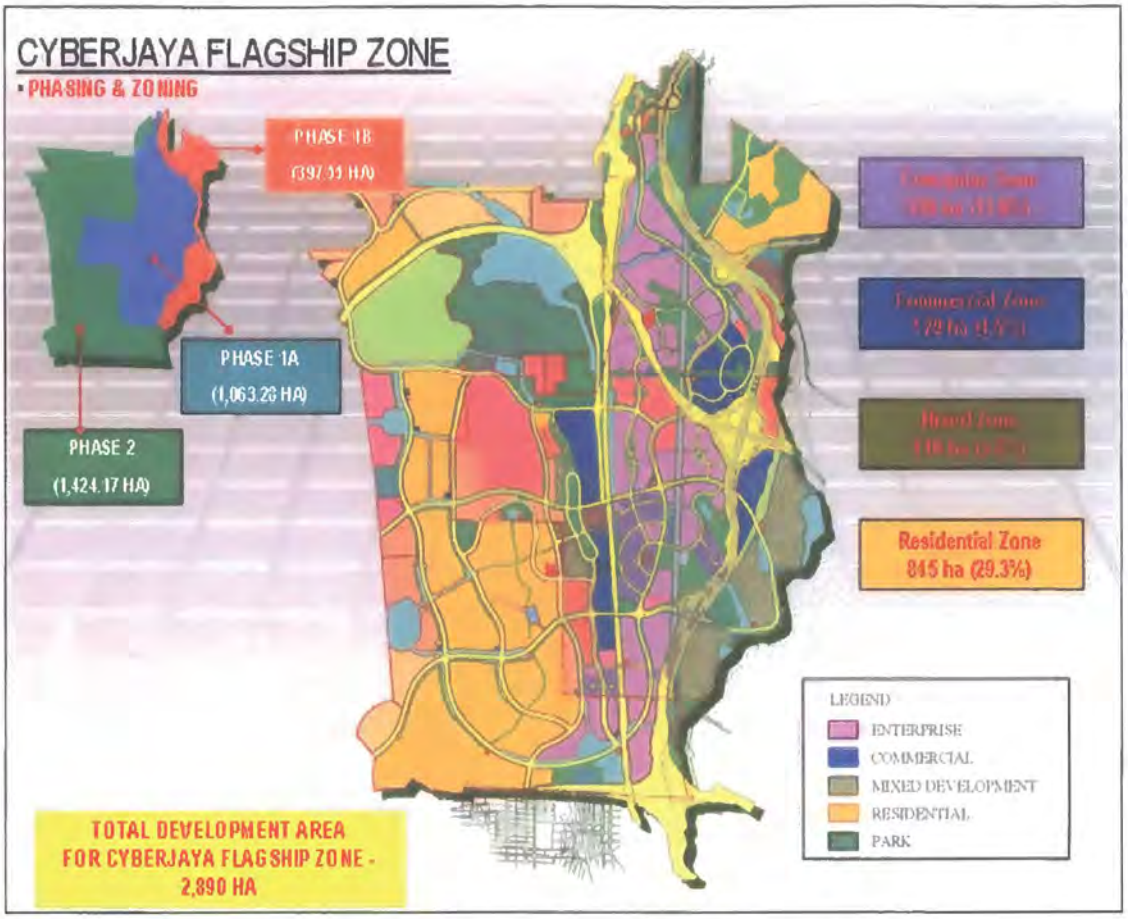

Figure 15: Cyberjaya Zoning Strategy (Source: Setia Haruman)

Following the modernist tradition, Cyberjaya followed a zonal pattern corresponding to each function of the city. This genealogy of these urban design conventions can be traced back to the grand designs of Le Corbusier who argued that a zone can be planned easier if it has just one purpose. When zones are planned for several purposes in view they present problems for the planner. As a result, Cyberjaya was divided into a flagship zone (for IT and multimedia companies), residential zones (housing knowledge workers in green lakeside spaces), commercial zones (containing the Street Mall), and recreation zones (parkland) (Figure 15). As Le Corbusier (1927) argued, with mixed functions in one zone the human mind loses itself and 'becomes fatigued'. Zoning was designed to produce specific psychological effects on the citizens who inhabit the 'intelligent city'. The built environment created the impression of an ideal 'analogous to the precision and

flawlessness required of the space of research itself' (Wakeman 2003: 262). The conscious formalism of the landscape, the parks, was to create an ordered, rational setting for thought set in idyllic landscape of greenery and water (Figure 16).

> 'Close to Cyberia is the park, in the evenings people go there to hang out, and just get away for a while. I even saw some of the I.T. people down there. Mostly it's used for jogging, or just walking around with friends. I like to go down there and take pictures before the sunset, it's really peaceful. You can't get the same kind of thing in KL. You know sometimes we get bored here, because there isn't stuff to do, but I also like the peace.'
>
> (Research Interview: Cyberia resident 1)

Figure 16: Creative Spaces? A View Across the Cyberpark in Cyberjaya (Source: Author's Photograph)

Secondly, Cyberjaya was designed to create a *disciplined space* where 'creativity and innovation can thrive' (Mahathir, cited in *The Star*, 18.05.1997). The built environment has been controlled through several disciplinary tactics. Cyberjaya was designed as 'dry city' to avoid the potential disrupting affects of alcohol on 'intelligent' living. The perceived lack of social amenities, and nightlife in particular was viewed by Cyberjaya companies as highly desirable from a management perspective. However, these planning guidelines were at odds with the needs of the expatriate community who work in Cyberjaya (two bars have since been opened to service their needs). The example underlines how the city planners strived to create an environment for creativity, but the underlying rationale was to maximise productivity, limit distractions, and manage the daily routines of workers more effectively. As the quote below demonstrates, Cyberjaya's built environment strived to create an environment geared towards work, and not pleasure.

> 'In Cyberjaya, its space, it is about the space. You can't build this in KL. Firstly, you would have to find the right location, then you would be paying more money for it. What is great is this is a great working environment. People go to lunch and they come back. There is no opportunity to while away the time in KLCC or get stuck in traffic somewhere, it is a really good working environment. You come in and its all about work, so you can stay focused until you finish, then you go back. From a staff management perspective, I love it.'
>
> (Research Interview: Corporate Affairs Manager, BMW Malaysia)

The citizen-subjects of Cyberjaya experience a city not of freedom and autonomy, but rather control and surveillance. The cybernetic systems of the city complement the urban design features in the built environment of Cyberjaya. For example, the city command centre functions as a 'surveillance hub' that not only monitors the operation of city, but also the behaviour of the citizens who inhabit the spaces. Omnipotent CCTV

cameras capture the everyday movements and flows of the city, and citizen-subjects. The usage of the city must fit logically into the plan of the 'intelligent city' where certain activities or people are deemed 'out of place' by virtue of their perceived 'non-intelligence' (Bunnell 2004). Palm oil tappers, who used to work on the plantations, were evicted from Cyberjaya as part of the strategy for 'intelligent-led development'. Despite this some individuals still practiced palm oil tapping in Cyberjaya against the wishes of the management who conceptualised it as an 'undeveloped' activity (Figure 17).

Figure 17: Palm Oil Tapper in Cyberjaya (Source: Author's Photograph)

In another example, street hawkers were banned from conducting business in Cyberjaya due to their incompatibility with the planner's vision of intelligent work practices.

> 'How do you create the intelligent lifestyle? Some people like the hawker stalls with some Malay guy from the kampung ['village'] frying, the smoke billowing, a guy fanning the satay. Some people like that; I am not saying it is no good, but for us no. It is more unique, more refined I think. We want to retain these people by some kind of image that we provide for them. The intelligent city, or something.'
>
> (Research Interview: Marketing Manager, Setia Haruman)

The quote above implies that the presence of hawkers or palm oil tappers is incompatible with the image of an 'intelligent city' and may offend citizens in Cyberjaya. It exemplifies the selective nurturing, or exclusion, of the elements of urbanity judged appropriate for scientific elites. A retreat to an imagined utopian city space is designed to insulate these individuals emotionally and psychologically from the distracting, or polluting elements of traditional Malaysian urbanism. Urban planning in Cyberjaya spatially segregates specific urban functions according to zones creating an exclusive enclave for the "best qualified" scientific and technocratic elites. The strategy reduces urbanity to an organised retreat to a garden suburb designed as a live/work paradise for engineers, and scientists. However, in one of the few critical accounts, *Aliran Monthly* sounded a note of caution in constructing a planned space of exclusivity for foreign knowledge workers and their 'world-class' companies.

> 'We must be wary of ushering in a new wave of economic cybercolonialism - one where the tools of information will be controlled by foreign companies in the MSC. These companies will employ highly-paid expatriates to run their operations here. Instead of hanging out at the Selangor Cricket Club and at

> the Bangsar's posh watering holes, these cyber colonialists will have a whole new city, Cyberjaya, to play around in.'
>
> (*Aliran,* Issue 2 1997)

Design strategies involved not only the exclusion of certain groups, but also the exclusion of specific indigenous urban forms. For example, development plans deliberately excluded public squares, and traditional Malaysian street patterns (e.g. shop houses, terraces) in order to remove spaces where Cyberjaya's citizens may waste time, or participate in the frowned upon practice of "*lepak lepak*" ("hanging out" in English) (Research Interview: Senior Planner, Setia Haruman). This harks back to Le Corbusier's (1927) announcement that "we must kill the street". The urban planning of Cyberjaya was not a politically neutral exercise for creating a viable utopia but is embedded with specific notions of inclusion and exclusion as citizens are divided according to class and their ability to pay. This is far cry from Howard's vision of the "good life" in his garden city plan, which like other modernist visions, was motivated by 'the erasure of social difference and creation of equality in the rational city' (Caldeira 1999).

Compared to the variegated, vibrant urbanism of downtown Kuala Lumpur life for Cyberjaya residents resembles the experience of being submerged in a sensory deprivation tank. While the garden city plan did create order and functional segregation it did so at the cost of producing a sensorially impoverished and bland environment. It is now recognised that the modernist utopias, with their quest for order, damaged urban eroticism, vitality, and playfulness (Sandercock 1998). Cyberjaya, like traditional technopoles such as the science park (Massey 1992), was not designed to function as a conventional urban place, instead it was imagined that work would be the greatest pleasure. Consequently, little effort was made to imprint, or create any urban character on the sanitised corporate landscape

of Cyberjaya. The quotes below from Cyberia residents reflect the sentiments of numerous residents I interviewed.

> 'It is a personal opinion. People say it's the "intelligent city" but there is nothing to do here, so people don't like to stay here. I think some people would prefer to stay in KL, and drive over an hour or something. We are students, so we don't just want to study, we like to go out and explore, but it is boring. Here you are just stuck in one place. Your friends, your room, your classes, that's it in Cyberjaya, that's all there is. I will go mentally sick, if I stay here, it is like a torture to us.'
>
> (Research Interview: LKW student 2)

> 'When I came here, first time I came, I had this feeling it was the middle of nowhere. There were few amenities, not much stimulation and a lot of open spaces. Since then we just got used to it I think.'
>
> (Research Interview: Cyberia resident 2)

Feelings of monotony were exacerbated by architectural repetition and uniformity consisting of numerous corporate offices interspersed with open land primed for 'further development'. The almost total lack of recreation and leisure amenities (excluding the park and a dilapidated Street Mall) has led to a feeling of general boredom amongst Cyberia's residents who were interviewed during fieldwork. For many, living in Cyberjaya was a traumatic experience characterised by bland anonymity, open green spaces, and a total lack of mental stimulation. Residents commented that the design of Cyberjaya had created a literal "siberia" – a work camp deliberately cut off from the city. These narratives conceptualising Cyberjaya as a disconnected, "dead city" or "ghost city" contrasts markedly to the planning vision of Cyberjaya as organism in which the city was modelled on an "intelligent urban body" replete with smart brain, fibre optic arteries etc. As Chapter 7 explores, feelings of boredom have been accommodated by heavy usage of the internet as a perceived means of 'reconnecting with the world.'

In summary, Cyberjaya's planning as an ideal environment for 'world-class' creativity welded together two distinct technological and urban utopian versions of the city. Firstly, technologically deterministic planning assumes electronic flows and spaces can substitute for physical ones; and the scale of the nation, region or world collapses to the geometry of the network. Consequently, the city was a wired telecommunications infrastructure to enable an idealised retreat from the chaotic post-colonial urbanism of Kuala Lumpur to an imagined garden city. Secondly, the garden city is ecologically determined to produce psychological space for creativity and innovation. However, these modernist planning strategies allied to cybernetic systems created a sterile, controlled physical space. However, any monotony or feelings of disconnection were to be overcome by the 'total connectivity' of telecommunications infrastructures that were imagined to substitute the physical spaces of the city with the electronic realm of Cyberspace. It was planned residents would be able to communicate with one another digitally and conduct the majority of their day-to-day routines through a computer terminal wired into their smart homes.

5.5. Becoming an Urban Exemplar: Imitation, Circulation and Travelling Discourses

Mobilised via transnational planning practices, a coalition of global and local planners sought to integrate man, nature, technology to produce a harmonious environment conducive to an imagined 'information society'. This utopian vision has been mobilised through specific urban planning discourses and technological imaginations each with their own specific genealogies. While the development of Cyberjaya sought to replicate specific utopian models (e.g. Howard's garden city, Wiener's cybernetics), the city has become an urban exemplar and imitated locally and globally.

Firstly, at the *national* scale, a range of standard bricks and mortar residential property developments have been place promoted as 'smart', 'intelligent', 'high-tech', 'cyber', 'digital' locales. Due to regulatory laxity often developments have often branded themselves as high-tech by virtue of incorporating LAN (Local Area Network) connections into their condominiums or the provision of an internet ready communal computer room.[63] Leading developers like MK Land and SP Setia marketed these developments to a 'new generation of technologically savvy homeowners' (*The Star*, 21.07.1996). In 1996-1997 townships that were launched as gated "smart" communities included Nilai Utama (developed by Negara Properties), Bandar Bukit Puchong (Bukit Hitam Development), Bandar Seri Permaisuri (Dwitasik), Sepang Orchard Resort, Bukit Indah Johor (SP Setia), Enquine Park (Taman Enquine Sdn Bhd), Bandar Nusajaya (Prolink), and finally several projects within Putrajaya.

This trend has been seen dramatically with developments located within close proximity (within 15-20 km) of Cyberjaya. Often developers have strived to utilise the location as a powerful marketing tool to attract potential investors. For example, *Kota Warisan* development, a 600 acre freehold township in Sepang, markets itself as 'smart township' due to its physical proximity to 'RM35 billion of infrastructure' in the MSC (Figure 18). Like many developments it markets broadband connectivity as a unique selling point; even though Telekoms Malaysia (TM) provides these connections as standard to most areas in Klang Valley. *Sri Palma Villa*, another property development located close to the MSC, claims to promote 'intelligent living" through I.T. enabled support infrastructures and free broadband access for one year upon occupancy. *I-resort* in Kajang, an adjoining area to Cyberjaya, promotes itself as 'the 1st intelligent resort living in Kajang'. I-resort claims to

[63] Despite the sector's growing popularity it remains unregulated with no accepted definition on what constitutes a smart home by the JPBM (personal correspondence with Dr. Jamaluddin 2006).

offer a holistic vision of a 'feng shui' landscaped environment to give its residents harmonious living whilst being wired with technologies.

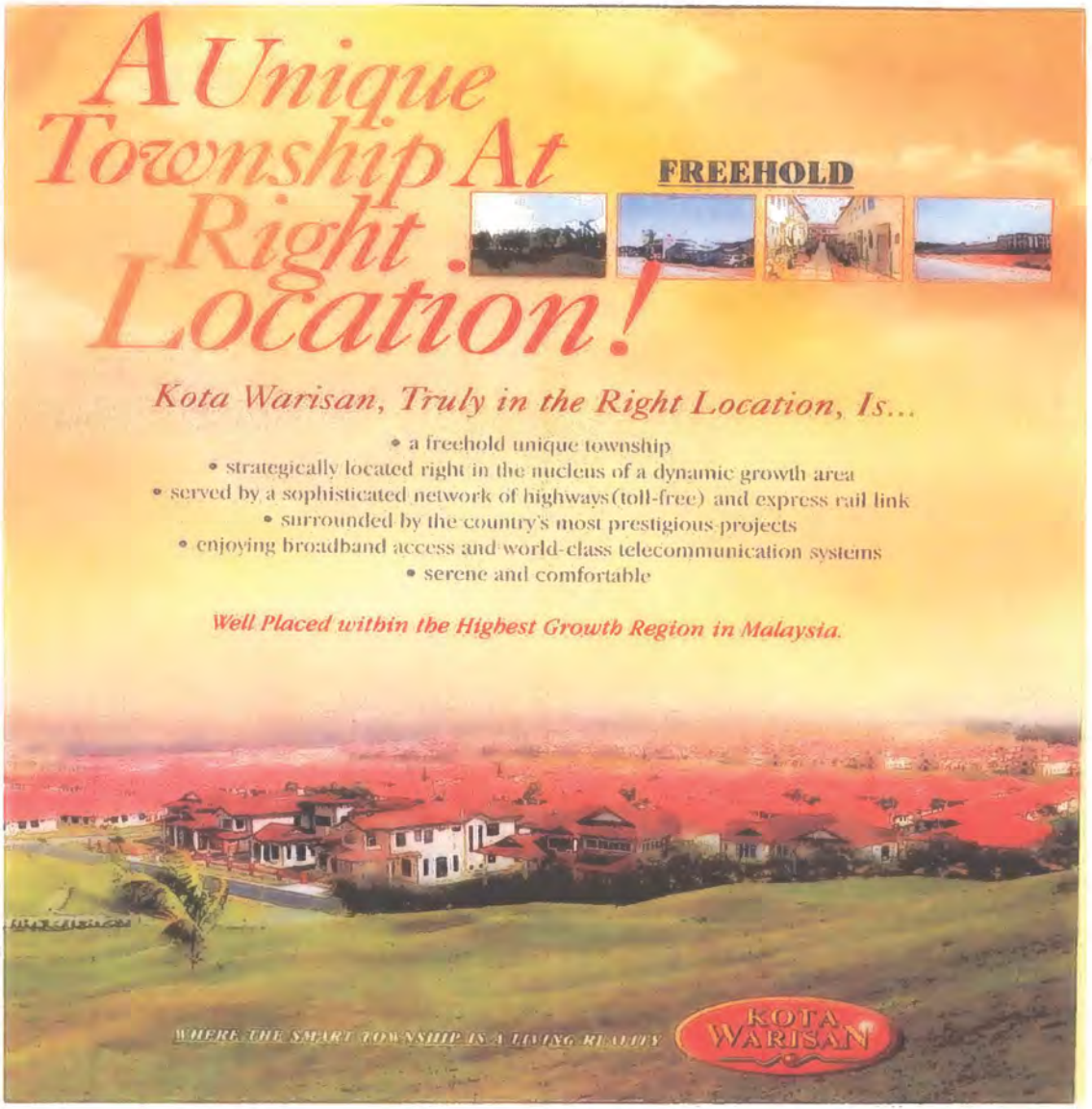

Figure 18: Promotional Advert for Kota Warisan "Smart Township" (Source: Kota Warisan Developer)

Cyberjaya's closest imitator is the I-City 'digital city' project located in Selangor state capital, Shah Alam. Like Cyberjaya it combined high-tech infrastructure with abundant green spaces to usher in a new era of 'digital living'.

'Under its skin lies a raft of technology and infrastructure, cloaked in a cooling green and landscaped setting that forms the basis of this uniquely original development designed to host tomorrow's increasingly discerning lifestyle conscious denizen.'

(*New Straits Times*, 24.07.2006)

'Ultimately the objective is to create in I-City a campus style live/work environment integrated into a large open space that boasts a lake that will also provide a waterfront environment.'

(*The Edge Magazine*, 17.10.2005)

Developed by I-City properties Sdn Bhd and encompassing 72 acres of freehold land, I-City is planned as a 'RM1.5 billion ICT based super regional integrated urban township that melds the state-of-the-art with the spirit of community'. The 'digital fabric' of I-City encompasses fibre optic enabled broadband connectivity alongside new wireless applications that will enable the entire community to be linked into one giant network. I-City plans to contain the usual list of smart features including smart homes, e-business, intelligent school, city command centres, 24 hour surveillance. The components of I-City include: two public parks, a 'cyberport' acting as the ICT backbone, a retail mall, CityWalk[64] commercial precinct, corporate office lots, two hotels, an innovation centre, intelligent school and serviced residences.

The project was master planned by Jon A. Jerde a Los Angeles based planner responsible for Universal CityWalk in Hollywood, Mall of America in Minnesota, Canal City Hakata in Japan, and the Arcade at Hong Kong Cyberport. As with Cyberjaya, associating the names of the global intelligence corps with the project can add important symbolic capital. The

[64] Modelled on Jon Jerde's design of Universal Studio CityWalk in Los Angeles, the I-City *CityWalk* will contain 74 retail suites and a RM 40 million programmable light and sound display encompassing video walls.

local government even claimed I-City would eventually become a "mini Cyberjaya" as part of the Selangor state government's plan to turn the state into an 'I.T. Valley' to rival the federal level MSC project. Cybernetic metaphors of circulation are also a central component of the I-City vision as shown below with the excerpt from a promotional video. Once again the themes of universal connectivity, 'anytime/anywhere' connections permeate how I-City was discursively mobilised.

> 'Imagine a city where people are totally connected. A digital city that fundamentally transforms the way we live, work, and play. Instead of being tied to offices, homes, or individual hotspots people can get fast and convenient access to information and each other from virtually every corner of their community. This digital city is not just a visionary concept for the future, it is a model that is already being implemented in cities around the globe enabling government to operate more efficiently, improving safety and security, promote economic vitality, and foster greater citizen satisfaction.'
>
> (Extract from I-City Promotional Video)

According to I-Berhad, I-City will 'take the cybercity to the next level' (I-Berhad, cited in *The Star*, 17.07.2006) creating a fully integrated digital community in a garden city setting. Currently under construction, it is the first planned 'wireless city' in Southeast Asia (*New Straits Times*, 14.09.2006). To reach this goal the project has linked up with Intel who will become the project's main technology partner. Some RM 40 million will be spent on the telecommunications infrastructure prior to its completion enabling the township to become an 'ecosystem for the digital lifestyle, conducive for people to live, work and play' (*New Straits Times*, 18.09.2006). The project seeks to join a group of digital communities led by Intel across Asia Pacific, America and Europe. I-City provides clear evidence of the "bandwagon effect" started by Cyberjaya whereby other property developments have sought to capitalise on the attractive 'cyber' branding to add value to their

own projects. Whether any of the utopian promises of the 'digital city' materialises is highly doubtful.

The private interests at the vanguard of the 'intelligent living' concept they have appropriated the 'smart' branding strategies for their own ends as government departments (e.g. Ministry of Finance), local councils (e.g. Sepang Municipal) were cajoled into handing over large swathes of land to private construction firms for 'intelligent' developments. Therefore – following Graham and Marvin (2002) - as national spaces have been 'unbundled' through privatisation, deregulation, and state 'roll back' new socio-spatial divisions were mobilised via differentiated geographies of inclusion/exclusion. As a result 'smart homes', 'intelligent districts' *et al* became new 'premium networked spaces' on the Malaysian landscape for housing affluent middle-classes and expat communities. As Chapter 7 through the Cyberia Smart Home study, this produced a parallel process of global engagement and connectivity through ICTs as well as withdrawal, secession and securitisation in a gated smart community.

Despite the hype surrounding I-City as Klang Valley's latest smart development a property market analyst gave a more realistic view of the development to me in interview.

> 'I-City has a long way to go. Like many of these projects, it's just a hype. As a property guy, I will be surprised if it succeeds, it is the third time they are launching it. The first time, failed, the second time failed. The first time it was suppose to be some electronic city. It keeps on changing so I don't know. Just hype for me.'
>
> (Research Interview: CEO of Zerin Properties)

Place marketing through I.T. is designed to create interest and publicly sell the image of the 'cybercity'. Often the practical reality of how these new technologies will take shape is undefined or speculative at best. The techno-

ecological branding becomes more than anything a powerful marketing tool that creates a competitive image for aspiring new urban developments. Consequently, while the concept of the cybercity sounds futuristic and grand, a truer description would be prosaic urban planning.

Secondly, at the global scale Cyberjaya has become an exemplar for technopole planning strategies amongst other aspiring developmental states. For example, a delegation from Dubai Internet City (DIC) visited Cyberjaya several times and consulted with MDEC on their technopole planning strategies. This was proudly referred to in interview as confirmation that Cyberjaya had arrived on the 'world stage':

> 'So Dubai have learned from us, while we sell the land, they give away land. Their laws are different, Sheik Maktoum has different laws, but they got Sun Microsystems, Dell, Microsoft, they also have the Dubai Media City and Reuters is there. So this is a different thing. But they modelled it on Cyberjaya, this is the case. It's good for us, it means we are doing something right, and people are sitting up and taking notice.'
>
> (Research Interview: Marketing Manager, Setia Haruman)

Dubai Internet City (www.dubaiinternetcity.com) has striking similarities with Cyberjaya. Offering a vast array of financial incentives, DIC is a free trade zone of sorts for IT and multimedia, located in one of the most rapidly developing urban landscapes in the world (some $100 billion sunk into real estate projects at the last count). It contains a familiar list of IT tenants including Microsoft, Cisco Systems, IBM, HP, Dell, Siemens, Sun Microsystems, Computer Associates, PeopleSoft and Sony Ericsson. The marriage of Dubai to the utopian technopole ideal to represent the logical continuation of Dubai's goal of providing all the world's 'spatial products' (resort enclaves, mega-hotels, cyber districts, gated communities, financial

centres etc) in a truly global village.[65] As a result the city-state is fragmenting into a series of extra-territorial spaces including Dubai Outsourcing Zone, Dubai Knowledge Village, Dubai Ideas Oasis, Dubai Healthcare City, Dubai Maritime City, Dubai Humanitarian City, Dubai Textile City, and Dubai Media City.

DIC has been billed as the Middle East's premier technopole. It offers freedom of ownership, no taxation, and the usual claims to provide facilities for global community set in (yet another) cutting edge campus style environment. It is the literal realisation of the perfect free market utopia imagined by the likes of Toffler, Gates and rest of the 'global village' boosterists. Eager to position itself as a regional player in IT and Multimedia, it has heavily copied the Cyberjaya model, transplanting it into its own space. Although it has adopted the same hard and soft infrastructures it has gone further in terms of deregulation offering 50 year tax-breaks as opposed to the 10 in Malaysia.

The above example illustrates how aspiring states attempt to mobilise 'information age' discourses to fast-track national development via localised projects in national territorial space. Whether the strategy will work or not is highly debateable. As Harvey (1989: 12) asks: 'how many successful convention centres, sports stadia, Disney worlds, harbour places and spectacular shopping malls can there be?' One can add to the list global technopoles (in their numerous guises), and growing scepticism that beyond the hype each project will find its own niche as peripheral economic space.

In the post-MSC era 'cyber' cities, 'intelligent' districts, or 'silicon' enclaves have become the buzzwords for new aspiring property developments. The excitement has created a "bandwagon effect" where the discourse circulates across multiple contexts. Each new property development strives to self-

[65] In 1998 83% of the population were expatriates.

promote as unique, or different from others that have gone before. Increasingly developers seize upon the rhetoric mobilised in the 'information age' discourses to promote their own property developments as investible locations. What these brief examples demonstrate is how ambiguous the 'cyber' branding has become as there is no definition or common understanding of what is 'smart' or 'intelligent' (Chapter 7). Consequently, developers use 'cyber' place marketing strategies to add value and symbolic capital to property developments. As one industry observer noted:

> 'But what I see after a while. After other developers trying to sell the same concept. There is a big difference in terms of what they are saying, and then what they will provide you with. I don't think the smart thing means a lot. I see that it is not a great big deal. I mean as a home buyer. I do not need to switch on my lights from my phone when I am not at home. So I mean unless we can identify a better benefit or re-categorise what a smart home is, or what it is suppose to be then what is the point. Is it just about selling?'
>
> (Research Interview: Director, C2Media)

5.6. Spaces of Privatopia: Towards an Intelligent Fortified Urbanism

Despite the utopian branding strategies each 'cybercity' project has created little more than privatised enclaves where global connectivity is realised by the few and not the many. Speculative predictions that the world will become one 'global village' McLuhan (1964) or modernist planning utopias could produce a 'classless city' (Corbusier 1967) tend to ignore the intersecting dynamics of power and politics in urban development. Who are the privileged citizens able take membership in this new technocratic planetarist vision? Is this just a continuation of digital divide between the information "haves" (e.g. Sklair's 'transnational capitalist class') and "have-nots" (e.g. the imported construction workers building Malaysia's high-tech dream)?

Aspiring technopole developments, intelligent cities, digital cities are akin to what Caldeira (1999: 114) has termed 'fortified enclaves', i.e. these are 'privatised, enclosed, and monitored spaces for residence, consumption, leisure, and work'. Here global 'information society' discourse functions as scalar camouflage to mask the underlying political-economic rationale of undertaking large-scale property developments. Underneath the glossy façade of 'intelligent living' in the new shiny 'edge city' campuses is a more prosaic reality of selling property to the highest bidder or inviting MNCs to invest by setting up - often peripherally economic - offshore back-offices. This has created a new wave in property developments of manicured gated estates, fortified enclaves, and exclusive suburbs marketed under the auspices of national development.

Although Cyberjaya was a state led project the development of the city was driven by a select group of government linked private property developers (Setia Haruman et al) and corporate interests (e.g. MNCs) who wished to maximise profits and did not share utopian visions. Cyberjaya was imagined as 'constitutive of high-tech Malaysian urbanity onto which the whole nation can eventually be mapped' (Bunnell 2002a: 281). The section contests this utopian vision to argue that the city has created a splintered space which is both *digitally* disconnected and *physically* estranged from its surrounding territory. Cyberjaya's high-tech landscape produces specific everyday geographies which give rise to an anomic and alienating urban fabric.

Firstly, visions of technological utopia ignore the materiality of ICT infrastructure provision in terms of access, levels of PC ownership, and IT literacy. According to official government figures 14 in 100 residents in Malaysia have access to internet dial up, but just 4.5 out of 100 have access to broadband (MCMC 2007). Unsurprisingly, internet penetration is highest in states on the urbanised west coast of peninsular Malaysia. For example, broadband penetration rates for the Federal Territory of Kuala Lumpur is 11

people per 100 inhabitants compared to just 0.9 in the northern rural state of Kelantan. While Selangor state on the west coast has 360 public access wireless hotspots, Perlis in the North has just 2. This data suggests there are clear and problematic regional disparities in terms of internet usage and access. Furthermore, it is unclear exactly how the concentration of centralised ICT infrastructures and investment in the MSC will even out these digital divides.

In the MSC, the utopian vision of creating a new democratic space was based on the naïve assumption that the network reaches all households, at all times in an egalitarian non-discriminatory manner. However, Malaysia is vast, rural, and its population dispersed across two land masses separated by a 4 hour flight. The lesson here is that 'geography matters'. There are serious doubts about whether the project of wiring every single kampung ('village') into the MSC project by Phase 3 is: (a) do-able; or, (b) desirable. Often telecommunications providers avoid providing services to rural communities which are too poor or sparsely populated to make a significant profit. For instance, will Telekoms Malaysia (the state telecommunications monopoly) lay fibre cables to the rural outposts of Sabah in East Malaysia? As Riaz (1997) argues, the upgrading, and subsequent partial privatisation, of the Malaysian telecommunications infrastructure in the 1980s was designed to ensure that key business sectors were interconnected to the global marketplace. The resulting urban biases for technological upgrading in Kuala Lumpur, Johor and Penang were therefore very deliberate strategies fully endorsed by the state at this time, and there is little to suggest a reversal in strategy.

Universal connectivity is an impossible vision. This is in contrast to the situation in the MSC's main competitor; the aspiring 'Intelligent Island' of Singapore (Chapter 4). As a highly affluent island state, its expertly managed resources are pooled into a 683 square kilometre landmass. Singapore's I.T.

infrastructure has been developed over a 25 year period since the conception of their national information infrastructure strategies in the 1980s (Chapter 4). The 'Intelligent Island' strategy, though mobilised in the superficial rhetoric of building a new Athenian democracy was grounded in more economic objectives. The project was to promote Singapore as a platform for software applications in Asia-Pacific and maintain the upgrading of human capital as the capacity of technology increased (Arun and Yap 2000). In marked contrast to the MSC it has delivered on its promise to create a global I.T. hub.

While state rhetoric still panders to dated utopianism that telecommunications can link Malaysia to the global village; this village 'is characterised by a functional global apartheid that separates and segregates certain affluent and wired neighbourhoods from other deprived and disconnected zones and neighbourhoods (O' Tuthail 1999: 143). If Malaysia continues to open its national markets to new telecommunications providers ('Telcos') then economic liberalisation will increasingly lead to further socio-spatial divisions and widening digital divides.[66] The most advanced infrastructures will be channelled into the 'premium networked spaces' (Graham and Marvin 2001: 191) at the service of global technocratic elites whereby 'spatial infrastructure is embedded within capitalism, and complex terrains of winners and losers inevitably accompany urban infrastructural change.' The telecommunications grid allows the dismemberment of specific sites or individuals deemed not profitable enough for intelligent living. Infrastructure provision is driven by private companies who seek to make profits and maximise returns for their customers. These projects can be placed in the context of new urban telecommunications strategies that produce 'complex patchworks of special interest zones and public-private governance initiatives' (Graham and Marvin 2000: 93). For example, the

[66] The state owned monopoly Telekoms Malaysia is facing increasing competition from other internet service providers such as Time, Celcom, Jaring and Maxis.

egalitarian CCC was to provide access to information kiosks at 10RM per hour, a cost beyond the means of most Malaysians.

Behind the glossy façade of the government's 'internet for all' and 'intelligent living' sloganeering - with its new band of Imitators it - inevitably comes down to a simple case of capitalist economics. While cyberlibertarianism is seductive, utopianists have often decided ignore over its political ends, and its more general failure to live up to its promises (Kelemen and Smith 2001). As Luke (1999: 34) notes: 'it is far more accurate to envision these undertakings as extraterritorial domains of telemetrical space, being turned into exclusive zones of service-provision, profit-generation, power-creation or goods-invention by their corporate vendors.' The continued bias towards wiring the most profitable - invariably urban - locations with the engines of the 'information age' - fibre, servers, wireless capability - will paradoxically have the effect of concentrating those elites and businesses which require them to stay close to the hub locations, or the 'premium bubbles'. The question remains whether the MSC can even out the regional inequalities to make Malaysia into a fully developed nation by the year 2020?

It is no coincidence that the champions of the 'anywhere-anytime' cyber-capitalist model were the CEOs and leaders of Multinational I.T. companies who stood to benefit from fibre optic connections in Cyberjaya. They aspire to take the economic model for cyberspace - unregulated, privatised, market utopia - and translate the same principles onto Cyberjaya. Most of these CEOs served as consultants to the state as members of the annual IAP (Chapter 4). The creation of a global space for neoliberal capitalism in Cyberjaya has been a veritable pursuit aided and abetted by transnational planning firms who create ideal spaces for global capital accumulation designed to 'promote' productivity. While the companies which inhabit the shiny new technopoles pander to state rhetoric on 'national intelligent

development', they are driven by their own desire to maximise profits, utilise lower labour costs, and ensure a minimum level of government interference in their activities.

On the ground, Cyberjaya's electronic networks were privatised into corporate VPNs (Virtual Private Networks) which are selectively distributed across the MSC. While promotional materials claim 100% fibre optic network connectivity this is reliant on developers installing the 'last mile' and linking fibre to the door of buildings. Most MNCs in Cyberjaya have financed this process individually; however, property developers have predictably cut corners and avoided wiring fibre to individual smart homes. Many residents interviewed were surprised how slow and unreliable the internet connection was in Cyberjaya compared to other places in the Klang Valley area. Furthermore, as Chapter 7 examines, the surrounding kampung ('village') spaces sit cheek by jowl with Cyberjaya and have no internet access at all. The 'global village' is therefore characterised by these exemplary 'bipolar places of uneven development' (Boyer 1992: 119). As Poster (1999: 239) argues, telecommunications infrastructure creates a series of digital dividing practices which often exacerbates the gap between the information rich and information poor.

> 'One must recognise that the Internet creates new invisibilities, filters out those who are not wired to its machine tentacles, disempowers those who cannot afford the start up fees, those who belong to communities that reject modernising technologies or are too poor to distribute them.'

Secondly, in physical terms Cyberjaya has created a splintered enclave in national territory. Cyberjaya's planners endeavoured to 'close off' the community from outside influences to produce a cerebral environment conducive to knowledge creation, and high value-added work practices. However, this had the double effect of producing a 'gated enclave' for privileged 'intelligent citizens'. The space of the technopole was designed to

isolate and protect elite groups who were seen to personify the future of 'Wawasan 2020' Malaysia (especially the new urban Malay middle-classes). This produced the strategic effect of creating a highly fortified extra-territorial space. As a result, the city has become more akin to an urban dystopia, as noted in my field diary:

> 'The more time I spend here, the more I think of Cyberjaya in techno-dystopian, rather than utopian terms. The data serfs of the "information age" leave their offices to become cocooned in smart homes terminals to surf the infinite frontier of cyberspace while keeping tapped into events in Cyberjaya via live webcam streams. In another citadelled corporate enclave highly skilled experts are monitoring computer systems for offshore oil production for one of the world's largest corporations. Connection and disconnection are interchangeable in this place.'
>
> (Field Diary extract, 29.10.2006)

In these terms, Cyberjaya's technological urban future has more in common with dystopian Cyberpunk classics such as Blade Runner, or the fortified surveillance overload of contemporary Los Angeles (Davis 1990; Davis 1998).

Fears about the 'exclusive' nature of Cyberjaya were first muted in a rare critical piece in Kuala Lumpur's *The Star* newspaper in 1997 which posed the question 'whether urban living would be privatised to the highest bidder'? The caption featured alongside a cartoon of a car entering a sealed urban lifestyle utopia (named "Luxuriaville") with a sign reading 1RM million entrance fee; a price well beyond the means of most Malaysians. Cyberjaya's exclusivity was reflected by comments from developers who commented:

> 'So Cyberjaya was basically a place, with nature and all the technologies, it is created for a very niche market, upmarket if you like. We want people who

> love nature, people who love the serenity, the tranquillity, the quietness, these will be the ones to stay in Cyberjaya.'
>
> (Research Interview: Executive, Cyberview)

Despite the framing of the 'intelligent city' as a classless, inclusive space it has instead been marked by spatial segregation according to social class. Cyberjaya sadly represents the literal realisation of the cartoonist's dystopian future. For example, while Malaysians are cramped into residential blocks scattered around the inhumane sprawl of Klang Valley the residents of Cyberjaya can enjoy the sanctity of an eco-friendly city inspired by North American suburban planning models (Lepawsky 2005). Though access to Cyberjaya is open in a physical sense it is gated via many other socio-spatial dividing practices (Chapter 7). This analysis builds upon work by Bunnell (2004) who addressed how the state evicted citizens (mainly Indian in plantations, or Orang Asli in squatter settlements) from planned MSC spaces based on the assessment they were living in 'non-intelligent spaces'.

> 'Land required for infrastructure projects undertaken by state private sector partnerships for various forms were acquired by the government and people displaced in the name of national progress. The cheapest land identified and targeted for land rights and/or legal claims to compensation. As such the greatest social costs of transformation were borne by already socio-spatially marginalised individuals and groups.'
>
> (Bunnell 2004: 117)

Marginal groups were excluded by being deemed 'out of place'. Despite the capacity of electronic networks to reconnect Cyberjaya to global centres, certain places and groups are always on the margins, peripheral to the MSC vision. This reflects broader patterns of urban polarisation whereby 'elite spaces' are produced for 'elite individuals', to exist in cocooned, privatised enclaves. This articulates with Boyer's (1992; 1996) 'Mini-Max' urbanism and is examined further in the following chapters. Such trends occur in the

context of the growing urban securitisation practices, and a proliferation of gated planned exclusive suburban communities through Southeast Asia. In Kuala Lumpur, as in other cities the world over, 'voluntary ghettoisation' (McLaughlin and Muncie 1999) has been driven by a fear of crime, and growing awareness of the 'social ills' of the city leading to a growing preference for suburban homogenous living arrangements (specifically in terms of class). A recent report on the Malaysian property scene brought into focus the growth of gated communities in the urban landscape:

> 'There has been a new disturbing trend towards the creation of gated communities to house large scale low-rise housing developments. In the wake of the ready adoption of American models of "New Urbanism" has come a socially divisive suburban landscape based around homogenous economic, social and ethnic groupings. This has been driven by the stark reality of contemporary life in urban Malaysia, a need for security (which indeed is often real) but bolstered in large part by real estate marketing images of resort exclusivity and boutique lifestyles: realities of a burgeoning wealthy class and its aspirations.'
>
> (Goad and Ngiom 2007: 15)

Cyberjaya's planners were candid about their desire to create an 'exclusive suburb' (Corbin Sies 1997) for individuals of privileged status and wealth. In interview Setia Haruman officials identified potential Cyberjaya investors as university educated Malaysian middle-classes intermingling (presumably creatively?) with managerial global elites looking for the quiet life away from Kuala Lumpur. MDEC's plans for Cyberjaya to be a 'global community living at the leading edge of the 'information society' comes with specific ideas on who is included and excluded. *The Star* (04.07.1997) noted this global community is aimed to be 'international citizens working and living in this new virtual realty packed with latest facilities and amenities of future cities'. However, the average Malaysian has been *financially excluded* through high house prices and living costs aimed at the expat market and elite foreign

workers shipped into the MSC to drive on creativity and transfer knowledge to indigenous workers.

> 'At the time it was about research and development. And, as you know these people will have doctorates or be professors, they can earn a lot. We need to create a space for them. So because of that the properties you can see around here are targeted to them and it costs above three hundred thousand [Ringgit], so they were targeting at that group. The average family can't afford this, but then we are not aiming to them.'
>
> (Research Interview: Marketing Manager, Cyberview)

While foreign knowledge workers were to facilitate Malaysia's 'leapfrog' Malaysians citizens have been priced out of Cyberjaya and many 'local' workers in MSC companies within Cyberjaya either commute from Kuala Lumpur, or have been forced to live in closer commuter townships nearby such as Kajang, Puchong or Bangi where accommodation rents can be less than half than those in Cyberjaya. This highlights the invisible material consequence and emerging human geographies of so-called 'intelligent' development that are actively reshaping the urban landscape across the Kuala Lumpur metropolitan region.

5.7. Conclusion

> 'A futuristic city, a multi-billion dollar test bed wired with the latest technology. Blueprints call for a resort like "cybercity" of 240,000, filled with citizens bearing "smart cards" for electronic commerce, children in "smart" schools, and hospital patients treated by telemedicine - all linked by a $2 billion network of fibre optic cable, already under construction, and connected with other countries.'
>
> (*Asian Wall Street Journal*, 11.06.1997)

> 'The utopian impulse at the heart of so many experiments in city building has always proved disappointing, if not downright disastrous in actual flesh and stone.'
>
> (Sandercock 1998:1)

How successful was Cyberjaya in replicating, and producing a global exemplar of utopian urban space? Judging the city in terms of the way it departs from existing urban Malaysia, then its success has been considerable. However, judging Cyberjaya by its capacity to transform the rest of Malaysia according the plans laid out in the MSC, then its success has been minimal. Ten years after the launch of Cyberjaya, plans for it to become a 'zero emissions city' (*The Star*, 02.06.1997), or create a 'global community living at the cutting edge of the high-tech era' seems questionable. While the city has provided the nation with an image of its future, it has failed to create a place in which people want to live and work. Zoning strategies, spatial segregation, lack of amenities accompanied by an overemphasis on digital connectivity over material urban life has produced a disciplined space in which citizen-subjects are psychologically disengaged. Transnational planning practices, influenced by a utopian urban modernism, were grounded on scientific and rational ways of seeing the city and deterministic understandings about spatial ordering.

Like many utopian planning projects, the real Cyberjaya exists in marked contrast to the 'intelligent city' imagined in planning documents. In 1996 when the vision for Cyberjaya was launched, amidst the hype surrounding the MSC, these utopian narratives were read as fact, in a deterministic manner; the environment would be built, the fibre laid, and everything else would follow in a linear manner. However, no utopian city is built precisely as imagined as planners cannot account for the financial means of their patrons or the actions of residents, or city managers. As my remaining chapters illuminate in different ways, utopian modernist planning discourses almost

forget there are real cities out there, with real people in them that one can visit and walk around in.

Chapter 6. Rethinking Cyberjaya: From 'Sticky Place' to 'Slippery Space'

6.1. Introduction

Chapters 4 and 5 examined the strategies mobilised by the state to discursively frame Cyberjaya as an 'intelligent' urban node connecting Malaysia to an imagined 'information society'. Building on this analysis, the chapter draws upon the typology of industrial districts outlined by Markusen (1996) to examine how Cyberjaya is symbolically and materially positioned as an 'investible' location for reterritorialising transnational flows of foreign direct investment (FDI) into national space. The analysis is framed in the context of selling a new 'global hub', promoted as an extremely 'sticky place', where local skills, infrastructure, capital, environmental factors attract R&D and corporate headquarters and make them reluctant to leave. The technopole was planned to create the conditions for a synergy between multinational capital and local enterprise, which in turn, would enable the technopole to become an innovative milieu in which high value-added activities would be undertaken in creative multimedia, software development, and I.T. product innovation.

However, the chapter argues, upon closer inspection and behind the inflated ideal of Cyberjaya as cutting edge 'intelligent garden city' it has become little more than an urban zone of disconnected outsourcing spaces and low value-added activities. This is what Markusen has called 'slippery space' whereby hypermobile back-office operations are precariously positioned in the international division of labour and follow the temporal rhythms of the global economy 'servicing a world elsewhere'. These operations are susceptible to location shifting once running costs and locational advantages become more attractive elsewhere as FDI flows are drawn to low cost

peripheral regions in order to maximise profit and service the command centres of the developed world (e.g. global cities like London, New York, and Tokyo). As discussed in Chapter 3, this led to a dual spatial redistribution of the *centralisation* of core high value-added activities in the 'sticky places' of traditional global hubs and a parallel *decentralisation* of back-office processes in always peripheral, shifting 'slippery spaces' often found in the developing world.

The structure of the chapter is as follows. Section 6.2 illustrates how the construction of Cyberjaya as 'sticky place' was heavily influenced by the 'global exemplar' of Silicon Valley. Section 6.3 critically examines how this technopole model has become akin to, what Easterling (2005) labels, a 'spatial product' transplanted into local contexts to attract global capital and assert national claims to globality. Section 6.4 explores both the symbolic (marketing and place promotion) and material (hard and soft infrastructures) strategies mobilised to position Cyberjaya as a 'sticky place'. Section 6.5 observes that despite hyperbolic claims of becoming 'Silicon Valley East'[67] Cyberjaya has in fact become a 'slippery space' characterised by low value-added shared services and outsourcing industries.

6.2. The Global Technopole Exemplar: All Roads Lead to Silicon Valley?

> 'In an era of globalisation, we want to become like Silicon Valley, and become an I.T. hub and drive forward the knowledge economy. MSC is about making that transition with Cyberjaya as the place for everything high-tech. Sure the success of Silicon Valley was a big factor for us.'
>
> (Research Interview: Head of MDEC Cybercities Division)

> 'Well if you read the brochures this place was supposed to be better [than Silicon Valley], with a real intelligent city. People had the hope when

[67] As opposed to the 'Silicon Valley West' in California, USA. Although this term has never been popularised.

> Mahathir was around that he could do it, people followed his vision. Based on the original plans, Cyberjaya would have been much more advanced than Silicon Valley. This was based on the intelligent city view. Like everywhere is intelligent, all the buildings smart, everywhere is connected, monitored. That was the original plan. But they can't compete with Silicon Valley, it is so unique. If the plan succeeded, it would have been the most high-tech city in the world. It could have been very impressive.'
>
> (Research Interview: Manager, Friesland MSC Company)

The emergence and success of Silicon Valley - an area stretching from Palo Alto to San Jose in Southern California - as a global I.T. hub has been well documented in both the popular press (e.g. *Wired Magazine*) and numerous academic studies (Rogers and Laursen 1984; Saxenian 1994; English Lueck 2002). These accounts have frequently underplayed the geographical factors and historical precursors in the growth of Silicon Valley. Often overlooked is the synergy between Stanford University and U.S. government Cold War R&D spending in military technology in favour of an emphasis on heroic accounts of garage innovators (Bill Gates, Steve Jobs et al) and the rise of global I.T. companies (Hewlett-Packard, IBM, Intel, Apple) in a mythical culture of free wheeling entrepreneurialism.[68] As a consequence, there is only a passing reference to the Silicon Valley's historical development rooted in: (1) the creation of an industrial base with Stanford Technology Park in the 1950s; (2) the growth of micro-electronics firms in the 1960s, and spin-offs from the first generation of firms along with support from defence industry; (3) the consolidation of semiconductor producers and launch of computer industry in the 1970s; (4) growing domination of computer industry, internationalisation and new round of spin-offs in the 1980s.[69]

[68] For example, as Castells and Hall (1994) note, in 1965 the government purchased 70% of U.S. output of integrated circuits

[69] In the 1980s the national dominance of Silicon Valley was threatened by the emergence of an I.T. cluster located around the Cambridge, Massachusetts Institute of Technology in Boston.

The concern here is not to evaluate the origins of Silicon Valley's success, nor to interrogate the dynamics of successful I.T. clusters within localisation economies; both of which have been analysed elsewhere (e.g. Scott 1988; Saxenian 1994; Malmberg et al. 1996; Malmberg and Maskell 2002). Rather the enquiry seeks to approach Silicon Valley as a specific discursive formation enrolled by national and regional policy makers in technopole planning models. Cyberjaya's attempt to replicate the rapid rise of Silicon Valley can be seen in the context of numerous other similar projects, or 'Siliclones', around the world. A comprehensive list of these can be found on the Siliconia Website (http://www.tbtf.com/siliconia.html) which details the vast number of technopoles which have used 'silicon-' and 'cyber-' prefixes as entrepreneurial place marketing and urban boosterism strategies (Graham 2004). Well known imitators include 'Silicon Alley' a new media district in New York City; 'Silicon Glen' in Livingstone, Scotland; and 'Silicon Hills' in Austin, Texas. Added to this list, are competing claims from urban I.T. hubs that they have become national equivalents of Silicon Valley. So, for example, northern Sydney is promoted as 'Australia's Silicon Valley' (Searle and Pritchard 2005), Bangalore as 'India's Silicon Valley (Parthasarathy 2004), or Cambridge Science Park as the UK equivalent (Castells and Hall 1994).

The replication mythology is based on the notion that a spatial cluster of I.T. firms characterised by high value-adding can be created by forging links to universities, and a supply of venture capital in an entrepreneurial climate aided and abetted by localised economies of inter-firm networking. Though many of these places have jumped on the Silicon Valley "bandwagon" very few can lay claim to becoming genuine 'innovative milieu' as defined by Castells and Hall (1994). Often the presence of a loose cluster of a few I.T. related companies, a small technology park or one flagship tenant is basis enough for local and regional development agencies to 'siliconise' the area and (re)brand it as a 'Silicon Valley' of sorts.

In interviews with Cyberjaya's planners, 'MSC architects' - including MDEC, Setia Haruman, Cyberview - all frequently referred to the influence of Silicon Valley on the development model for Cyberjaya. As seen in Chapter 4, the project associated itself with Silicon Valley through a number of discursive strategies including frequent trips by government officials to Silicon Valley (e.g. MDEC, MOSTI), institutional links with Stanford University, formalised links to industry leaders (e.g. Bill Gates) through the IAP. Mahathir followed in a long line of presidents, ministers, and dignitaries that made the pilgrimage to Silicon Valley in well publicised delegations to capitalise on social prestige back home. Forging a highly symbolic relationship between Cyberjaya and Silicon Valley was largely about legitimising the vision to a global audience. The arrival of Silicon Valley companies in Cyberjaya (e.g. IBM, HP) was wrongly mistaken as evidence by the state of a migration of skills, knowledge workers to Malaysia. While many of these links promised a great deal, they delivered little with many companies choosing to invest heavily elsewhere (e.g. Microsoft in Singapore, Cisco in China[70]).

Cyberjaya has gone further than any other 'siliclone' in an attempt to replicate an imagined Silicon Valley "model". This was based on the rationale that national territory could be transformed into high-tech industrial space given a now familiar list of prerequisites including a pool of highly skilled engineering graduates, an immediate supply of venture capital, infrastructure provision, support services, incubators for start up companies, and the nurturing of informal networks. Cyberjaya's planners and MDEC visited numerous technopoles, not only Silicon Valley but also Technopolis Project in Japan, Sophia Antipolis in France and Bangalore, India in the planning stages for Cyberjaya to examine the 'ingredients' of successful technopole planning. This was conceived as a linear process whereby the

[70] Cisco's investment programme in China was estimated at US $ 100 million (*PC Magazine*, July 1998), while Sun Microsystems have concentrated the bulk of their investment in Singapore (*Businessweek*, 22nd March 1999).

provision of specific 'hard' and 'soft' infrastructures would create an 'innovative milieu' for high-tech industries.

> 'I mean Silicon Valley works because of the universities right? So we created MMU in Cyberjaya. Then we anticipate the talent and skills will follow. Silicon Valley is based on the hubbing concept of certain industries, so we decided to do this too, and get all the IT and Multimedia to come to Cyberjaya. They need the campus-like atmosphere, the green space, and the set up that we have here. You know for research intensive companies they need a certain type of space, and we tried to provide that here.'
>
> (Research Interview: Head of MDEC Creative Multimedia Cluster)

The role of Stanford University was held up as a crucial 'ingredient' in the success of Silicon Valley. Cyberjaya's planners decided to build their own university based on the assumption that 'new economies' are dependent upon the spatial interaction of technology parks, universities, and companies (Storper and Walker 1989; Malecki 2000). Cyberjaya's Multimedia University (MMU) was hyped as the 'Stanford University of Asia'. It was opened in July 1999 to become 'a truly world-class institution - to be the catalyst for the development of the Multimedia Super Corridor (MSC) and the nation, parallel to the Silicon Valley's success in the USA' (MMU website, accessed 10.07.2007). As the following excerpt from a Mahathir speech demonstrates, MMU has been discursively framed to replicate the "Stanford effect" in Silicon Valley.

> 'The Multimedia University is no ordinary university since it will become the cultural heart and intellectual nerve centre of the learning society to be created within the Cyberjaya community. Its opening signifies the readiness and capability of the MSC to generate a critical mass of quality knowledge workers for MSC status companies. It is designed to spawn creative ideas and technopreneurs - very much like the role that Stanford University plays in the success of the Silicon Valley.'

(Mahathir 1999)

> 'This is supposed to be like Stanford right, in Silicon Valley. They see a lot of I.T. and multimedia companies, and there is a good rapport between Stanford and those companies, so we live to copy that situation, that is why we moved the campus form Melaka to here. It was a deliberate thing, it didn't just happen by chance. This was Dr. Mahathir's idea I think because the Stanford and Silicon Valley symbiosis proved to be very successful, so we like to be like that. We too want to become successful.'
>
> (Research Interview: MSC-MMU Relations Division)

With 8,500 students, and an entrepreneur centre tied to MDEC's 'Technopreneur Development Programme'[71], MMU was planned to produce graduates to compete in global knowledge markets. The development of MMU actively consumed the 'mythology' of Silicon Valley of young engineering graduates becoming I.T. industry millionaires overnight. In interview, MDEC (Research Interview, Technopreneur Division) outlined that success for Cyberjaya would be to create a 'Malaysian Bill Gates'. Heroic accounts of budding IT entrepreneurs have been constantly replayed in numerous books, or magazines, such as *Wired,* adding to the cult status of Silicon Valley as high-tech nirvana. However, ten years after the launch of Cyberjaya plans that there would be at least 15 corporate R&D centres, 10 R&D collaborative centres of foreign companies, local universities, and local firms, at least 10 local R&D centres, and at least 10 projects for emerging multimedia technologies (*The Star,* 19.06.1997) has failed to materialise.

Despite its grand claims MMU has not become the "Stanford of the East" and Malaysia lags behind Singapore, Japan, Korea, Taiwan, and now China in technology innovation.

[71] The programme is to facilitate the development of start ups, technopreneurs, existing ICT companies, and to nurture a cluster of competitive ICT small medium companies (SMEs) in Cyberjaya's Technopreneur Centre (MSC-TeC) (MDEC 2006).

> 'Ten years on I believe it didn't live up to its hype to be the new Silicon Valley. It never benefited the industry in the way that we thought it would. I think ten years on the animation, or multimedia industry still hasn't had a global success story in terms of entertainment, or intellectual property. In terms of the size of the industry it is not much bigger than it was ten years ago. So MSC didn't deliver.'
>
> (Research Interview: CEO of Creative Licence)

Measuring Cyberjaya in terms of creative output or numbers of local companies who went on to become global players suggests a story of failed expectations. However, perhaps the desire to simply replicate Silicon Valley was misunderstood. Although Silicon Valley's success was underpinned by early state involvement, the role of the Malaysian government in Cyberjaya has been characterised by management over its citizens and an entrepreneurial culture by coercion. The "rock and roll CEOs" of Silicon Valley (e.g. Apple guru Steve Jobs) with their sub-cultural lifestyles, sits uneasily with the new breed of entrepreneurs which the MSC project attempted to create. Furthermore, state planners cannot be expected to predict the next "hot technology", nor are they adept at manufacturing the risk taking culture that powers the 'new economy'. The likes of Bill Gates were not nurtured in government labs, under the watchful eye of state 'technopreneur' programmes. Furthermore, state policies for the creation of Bumiputera high-tech capitalists have welded together political and economic interests of protectionism and race politics which sits uneasily with the experimental entrepreneurialism of Silicon Valley.

> 'They just look to Silicon Valley as this utopian model. In Malaysia people don't understand that only a fraction of the start ups can go on to succeed, and in some cases go global. So I think we need to get real about this. Not only that, the culture of giving back for those who are successful is not there. Also there is a misunderstanding about what venture capital (VC) is. Most

people think VC is something that the bank does. It must give them specific returns at specific times. That's the logic of banking but not of VC.'

(Research Interview: Vice President, MDEC Technopreneur Division)

The quote exemplifies problematic cultural differences in Malaysian attitudes to risk and venture capital which hindered the replication of an entrepreneurial culture in the MSC. The lack of an entrepreneurial culture is acutely experienced by the Malays for several reasons. Firstly, of Malaysia's three ethnic groups, Malays were marginalised in Malaya's (as it was known prior to 1963) colonial economy by the British in order to consolidate their own position of power. Their failure to improve their economic standing after independence led to a rise of Malay nationalism in the 1960s, culminating in the ethnic riots of 1969. In response the government initiated the NEP to improve Bumiputera economic competitiveness via a number of positive discrimination measures. Such policies included ethnic quotas favouring Malays for employment in government sectors and private corporate enterprises, for stock ownership in corporations and for government contracts (Gomez 1990; Gomez and Jomo 1997).

Secondly, as a consequence, from 1970 to the time of writing, state semi-authoritarianism and economic intervention has stifled any genuine entrepreneurial culture that could have fermented amongst or between ethnic groups.[72] The UMNO dominated government succeeded due its ability to control and distribute economic resources; a process which Crouch (1996: 37) labels its 'patronage dispensing function'. Furthermore, as Jomo (1990: 231) observes 'it is now widely believed that most new opportunities for wealth accumulation are crucially determined by political access rather than any entrepreneurial ability'. As a consequence, there is virtually no private venture capital industry within Malaysia or the MSC. The state has provided

[72] The NEP was replaced in 1990 by the National Development Policy (1991-2000), then the National Vision Policy (2001-2010), both of which continued NEP pro Malay affirmative action policies.

a venture capital fund through an MDEC subsidiary - MSC Venture Corp[73] and nurtured start ups in the government offices of Cyberjaya's high-tech incubator. However, attitudes to risk taking and entrepreneurialism are culturally ingrained and cannot be changed overnight, or even in years, through state led projects such as the MSC. These cultural and political differences - added to the shortage of skilled graduates - have hindered the creation of a new generation of risk taking start ups hatching innovative ideas.

6.3. Creating a Simulated Urbanism: Cyberjaya as a 'Spatial Product'

> 'They appear so similar - outside Cambridge, England, or Cambridge Massachusetts; Mountain View, California or Munich, Germany - that the hapless traveller, dropped by parachute, would hardly guess the identity of the country, let alone the city. The developments they represent go under a bewildering variety of names which invariably permute a few key elements like Techno, Science, 21st Century, Park, Plaza, Polis, and –topia.'
>
> (Castells and Hall 1994: 1)

> 'The shining temples and palaces of I.T. parks of Arabsat and Indosat in Dubai or Malaysia seem to clinch the familiar political argument that these enclaves often elude locality, generating apolitical forms of urbanism, incubating or laundering data and resources like a Swiss bank account for technologies.'
>
> (Easterling 2005: 24)

The goal to replicate the Silicon Valley "model" has led to a proliferation of projects that are equally generic and devoid of local character. These technopoles have come to represent a formulated entrepreneurial strategy for economic development; something of an 'urban recipe' for the material

[73] A non-profit company that funds start up companies in the Malaysian ICT industry.

preparation of 'post-industrial' spaces. The 'global intelligence corps', highlighted in Chapter 4, are akin to 'celebrity chefs' creating new architectural spectacles for global consumption. The urban recipe for technopole projects follows several simple steps. For example, take 5 square kilometres of flat land; prepare the land with landscaped 'resort style' urbanism, wire with fibre optic cables and a desired amount of office space. Finish up with lakes, green spaces, a few fountains for good measure and serve up to the consumers of global capitalism. These blueprints often parachute into local spaces ignoring or attempting simply to write over local histories, geographies and cultures with their hegemonic narratives of high-tech modernity (though this is rarely successful).

Cyberjaya is one of a long line of 'offshore real estate cocktails' (Easterling 2005: 3) that have been exported around the world via transnational planning practices to house MNCs in low-rise, low rent campuses where the usual raft of tax-free financial incentives apply. Corporate campuses offer both prestigious locations for firms and provide specialist infrastructures such as firm owned power redundancies, satellite link-ups, and in-house facilities for employees. From Dubai to Cyberjaya, Hong Kong to Hyderabad these projects have been eagerly prepared by aspiring national governments for a new age of 'digital capitalism' (Schiller 1999) and consumed by increasingly footloose multinationals searching out profit wherever the urge should take them. Public claims that Cyberjaya will become the "new Silicon Valley" (how many times has this been heard in the past ten years?) serves to mask underlying spatial disjunctures. These shiny new technopoles seek to 're-scale' (Swyngedouw 1996) global capital and reassure its needs through the provision of cutting edge infrastructure combined with the "five star" luxury of a garden city. Splintered urban enclaves have been meticulously prepared by local institutions (e.g. MDEC) in consultation with MNCs to produce the best kind of "landing strip" for capital so that:

> '...the global information economy with its advanced technology and transnational corporate culture reigns supreme and dominates the physical as well as the social image of the metropolis'
>
> (Berner 1997: 99-100)

As examined in Chapters 4 and 5, Cyberjaya has manifested as a zone of socio-political fragmentation subject to new government policies geared to promote the city as a conduit for global flows and investment. As a consequence, the physicality and design of Cyberjaya's environment aspires to reach "global standards" (constantly referred to as "world-class" in promotional materials) in order to attract the 'new economy' web-shapers; i.e. those MNCs that excel in innovation, research and development of I.T. and multimedia products. MDEC is quick to emphasise the presence of foreign MNCs as a tool for attracting further rounds of investment and promoting synergies with local industry. The presence of global I.T. and multimedia companies carry their own symbolic capital as ready-made tenants for technology parks around the world. The MDEC website has a roll call of its 67 'world-class' tenants which includes the likes of Nokia, Siemens, Motorola, Oracle, Ericsson, Dell, DHL, Shell, IBM, HSBC, Panasonic, BMW, Fujitsu, Intel, NTT, Compaq, NEC, Microsoft. Importantly, the presence of MNCs is more important than what these companies actually do (i.e. back-office functions).

To facilitate transnational connections, Cyberjaya was promoted as an urban node for the pursuit of a national high-tech strategy reliant on foreign investment. It created a new simulated urbanism for global consumption which, like other 'spatial products' 'lacks an authentic consciousness of place and time' and 'is largely subservient to the dictates of Western cultural and intellectual cues' (Tay and Goh 2003: 16). This is not so much the realisation of the 'anytime/anywhere' dream but also the *elsewhere* dream whereby technopoles create a 'hyperreal' (Eco 1987) spatiality often dislocated from a

local context. Similar examples includes shopping malls (Shields 1988; Goss 1999) or paradigmatic U.S. cities which seek to imagineer 'other worlds' spatially. Case studies include Soja's (2000) work on Orange County, Gottiedener (1997) and Hannigan (1998) on Las Vegas as the perfect simulated urban space, and Archer (2001) on spatial imagineering in Orlando.

Such places are deterritorialised and unfettered by the traditions of the past. The urban design, layout, and architectural form are engineered to create a new imagined spatiality. This partly 'emptied out, abstract, codified space of the city' (Lash and Urry 1994: 17) of high modernism and internationalism produces a space of dizzying disorientation. This mode of urban planning can be theoretically linked to Eco's (1987) work on the 'hyperreal' and Baudrillard's (1983) theory of 'simulation' which focuses on the production of new post-modern cultural spaces without historical referents:

> 'Abstraction today is no longer that of a map, the double, the mirror or the concept. Simulation is no longer that of a territory, a referential being or a substance. It is the generation by models of a real without origin or reality: a hyperreal.'
>
> (Baudrillard 1983: 2)

'Spatial products' create new versions of the city through urban spectacles (Debord 1970) that are inauthentic, divorced from context, and often completely artificial. This process is what Castells (2000b) has labelled a 'real virtuality' to describe when virtuality becomes the key component of our symbolic environment. This applies to the whole concept of the 'information society' itself which is the perfect embodiment of Baudrillard's 'desert of the real'. Cyberjaya is the perfect simulacrum – a simulation of a reality that never existed. The 'intelligent city' is ultimately baseless, rooted in the false logic of technological determinism, and a utopian belief in ICTs and their power to create a progressive society.

Cyberjaya's planners strived to create a place that was globally orientated in terms of urban form, population composition and architecture style to create a sense of an imagined utopian elsewhere - Silicon Valley - in Malaysian space.

> 'You know we want to create a special kind of place here, when people come to Cyberjaya they have this feeling they are entering the future. The city feels different from elsewhere in Malaysia, it has a different style, unique architecture, and lots of foreign influences.'
>
> (Research Interview: Senior Planner, Setia Haruman)

The juxtaposition between Kuala Lumpur and Cyberjaya is something that was observed in early fieldwork diaries during the first few weeks exploring the MSC.

> 'The first thing I noticed, just driving around Cyberjaya and Putrajaya, is it creates a very different experience from driving around KL (Kuala Lumpur). These cities are much less chaotic, they have the appearance of being well managed, and are visibly manicured by an army of gardeners and cleaners. At the same time, something is lost as here. Cyberjaya in particular produces a sanitised space, too contrived, too corporate and as a consequence rapidly loses all the things I like so much about Malaysia exemplified in the urban vitality of KL.'
>
> (Field Diary extract, 12.08.2006)

Figure 19: Fujistu Office in Cyberjaya Exemplifying the 'International Style' (Source: Author's Photograph)

Ironically as each 'siliclone' aspires to replicate the same imagined elsewhere they give birth to what Koolhaas (1995) has described as a 'generic city' - a mode of global placlessness whereby, despite geographical distances, each development looks remarkable similar in style and form (Figure 19). Cyberjaya is characterised by bland corporate offices, large manicured green spaces, and a sterile working environment. Consequently, the city lacks a sense of place or authenticity because it was deliberately designed not to have one. As examined in Chapter 5, the transnational planning processes reduced urbanity to the ideal type of garden suburb - an exclusive work paradise for technocratic elites whereby its uniform composition, rational arrangements of space, and symbolic architectural form are designed to place it in the cultural and territorial 'ideal' of

technopoles (Wakeman 2003). Although promoted as a national project, the urban vision of Cyberjaya seeks to meet the requirements of global capital.

> 'Ironically, while these megaprojects attempt to represent cities, or discreet spaces within them, as centres of innovation or cutting edge design, full of intelligent buildings or lifestyle distinction, they seem to look and maybe even feel increasingly the same.'
>
> (Jones and Carranco 2007: 145)

Global capital dictates that these projects must be understood by decision makers in a corporate environment who are unable, or unwilling, to understand the complexities of different urban contexts. These are the country managers of large MNCs in collaboration with their CEOs deciding which new locations may be suitable sites for expansion. Castells (1996: 428) labels this as 'structural schizophrenia' whereby managerial, technocratic, and political elites demand landscapes which are ahistorical, acultural and highly sanitised. When choosing a location, green spaces, lakeside living in gated communities, secure corporate enclaves which "keep the natives out" are all seen as desirable features for an ideal globalised live/work environment (Chapter 7). In order to draw in the global capital that these business elites are connected to, local narratives are downplayed, and a new competitive image dreamed up by planning firms promoting the modernism of the 'International Style'. The glossy imagineering of promotional brochures and discursive linkages to Silicon Valley was advanced to add value to the otherwise peripheral Cyberjaya.

This was confirmed in interviews with representatives from MSC companies who repeatedly mentioned they liked the 'resort feel' of Cyberjaya and cited that the 'green spaces' were important for their staff. One manager of an Australian firm recalled "flicking through the marketing brochures" with his senior management and before making the decision to relocate to Malaysia (Figure 20). He commented that "foreign executives couldn't fail but to be

impressed by Cyberjaya's urban vision". During interview, he sardonically contrasted these seductive images of futuristic looking offices in green locations with his office view overlooking an empty plot of land awaiting further development. Like several of the early movers into Cyberjaya, his company invested based on potential of the development model promoted by MDEC and local developers. However, the 'intelligent city' vision has failed to materialise.

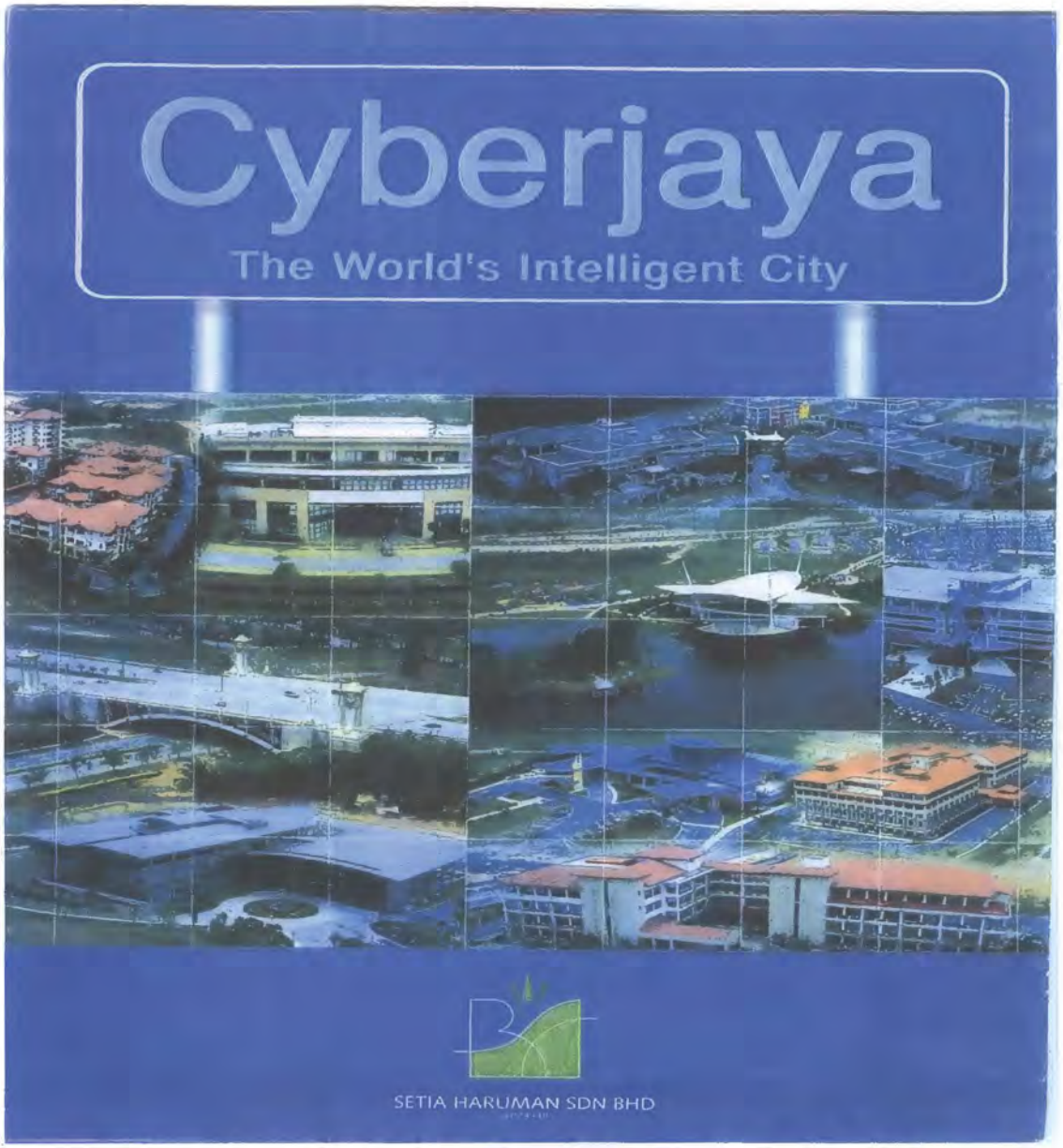

Figure 20: Promotional Brochure for Cyberjaya (Source: Setia Haruman)

Through urban boosterism strategies and mechanisms of transnational governmentality localised features are consciously erased, or downplayed, as technolopoles are deliberately designed to assert the physicality of a new modernity. The ostentatious marble and glass office entrances serve to differentiate Cyberjaya from the surrounding areas, and superficially mark its space as 'modern' while masking the expanding power of MNCs over non-sovereign territory. For example, a secesionary effect occurs in corporate

enclaves in Cyberjaya. For example, Shell I.T. required self-contained live/work amenities in a secured site in order to relocate to Cyberjaya. Shell's two buildings in Cyberjaya are connected by a "skywalk" so that Shell employees don't even have to leave the sanctity of the air conditioned office when they are travelling around the corporate 'campus'. Chapter 7 explores further how the goal was to produce a hermetically sealed, work environment conducive to maximum productivity. The architectural design creates a homogenous 'global corporate' environment which both partially withdraws from, and is alien to, the local surrounding but similar to the design of technopoles the world over. In the case of Cyberjaya its urban spaces are 'de-Malaysianised' i.e. where local resonances are downplayed to satisfy the aesthetic demands of MSC companies.

Technopoles function as 'perfect servants' (Easterling 2005) for MNCs and their imperialist logic of global expansion. It is here that '"winning" access to global capital may come at the price of "losing" national and regional identities through the homogeneity of design' (Jones and Carranco 2007: 145). What is produced in the urban design for technopoles is a backdrop akin to those found in T.V. car commercials. For example, a specially commissioned book produced by Setia Haruman (2003) titled 'Cyberjaya: a city inspired' details 'the architectural and technological achievements of the city, enhanced with the essence of inspired Malaysian fashion'. The book contains pictures of models posing in some of Cyberjaya's trademark office buildings such as the BMW regional headquarters. Here attractive female models are set against a corporate backdrop of glossy glass and steel offices of MNCs striking sultry poses (presumably to seduce potential investors) (Figure 21).

Figure 21: Photograph From 'Lines and Curves: Cyberjaya a City Inspired' (Source: Setia Haruman)

However, the chapter does not reduce Cyberjaya's development to mere Silicon Valley replication, unproblematically implanted into national space by transnational actors with state consent. Moreover, the thesis emphasises a more nuanced transnational planning history to acknowledge:

> 'A combination of historical, cultural, social and spatial practices are brought together in a particular territory by a particular set of people (agents) and

> social and political institutions to construct from out of the "imagined community" of the nation, the city, town or any other kind of settlement.'
>
> (King 2003: 5)

> '...people are never passive recipients of external initiatives, but rather struggle within their own immediate contexts of constraints and opportunities to produce a meaningful life with their own particular values and goals.'
>
> (Goh 2002: 15)

Cyberjaya is a project that requires textural examination of the conditions under which it was inserted into existing economic, social, political, and cultural landscapes. The state played a dual role of, on the one hand, promoting Cyberjaya as site for neoliberal engagement and transnational connection in a globalised world, and on the other, devising Cyberjaya as a national project exemplary of 'intelligent' Malaysia. The state functions as a mediator between the placeless architecture and globalism of a 'space of flows' and the cultural symbols of national identity (Appadurai 1996; Boey 2002). Its role is to balance the conflicting forces of a predatory inward migration of globalised capitalism and an indigenous capitalism seeking to internationalise. The state, therefore, sought to create a space that was business orientated in function but culturally and historically embedded in localised contexts.

The chapter avoids labelling this practice of hybridisation as post-modern because, following King (1976; 2003; 2004), the mixing of different histories of cultures emerged long before the 'modern movement' (e.g. colonial architecture and design). Rather, thinking with Bhabha (1994) the notion of 'hybridity' describes how space is constituted through elements of encounter that transform each other. Therefore, Cyberjaya can be considered as a 'third space' which combines transnational cultural-economic flows with localised narratives. This 'third space' has the potential to be a site of resistance.

The compulsion to assert 'local' design elements implies that, although the orientation of Cyberjaya is overtly global, the power still lies with Malay dominated rulers who are categorised by the state as the 'sons of the soil' ('Bumiputera'). These indicators of nationhood manifest in several ways in the MSC. In Cyberjaya, the centrally located MDEC headquarters incorporates local vernacular into the architectural design (Figure 22). Notably the sloping roofs resembling a traditional design for a Malay house (Figure 23) that would not look out of place in Kelantan, a city famed for its Malay heritage.

Figure 22: Multimedia Development Corporation HQ, Cyberjaya (Source: Author's Photograph)

Figure 23: Traditional Malay House (Source: Author's Photograph)

Discrete state mobilised narratives of Malay hegemony convey political messages to the local population which are lost on a global audience disengaged from Malaysia's complex cultural politics. For example, design plans for the Petronas Towers contain a series of Islamic motifs with the floor layouts are based on Islamic geometric traditions. The design for the undulating roof structure on KLIA reflects traditional Malay architecture. Rather than reflecting the ethnic mix of Malaysian society the architecture reaffirms the political hegemony of the Malays and contradicts any notions of the MSC as an ethnically inclusive national project. Architecture in the MSC has become symbolic of Malay engagement with a world of global commerce, business and the arrival of the *Melayu Bahru* ('New Malay') generation (Bunnell 1999; King 2007). The most overt display of 'Malay monumentalism' is showcased less than 5 km from Cyberjaya in Putrajaya

through a series of signature buildings including the Masjid Putra, Melawati National Palace, Prime Minister's office, and the Palace of Justice. As King (2007) documents, it is here that the Bumiputera claims to nationhood manifest themselves in full form. The Masjid Putra ('National Mosque') in Putrajaya is designed according to Islamic-Arabic vernacular and is a public signifier of Malaysia's orientation towards Islam. The presence of Malay-Islamic architecture at the symbolic centre of the MSC publicly confirms Mahathir's pronouncement that the MSC will not be a 'global free-for-all'. Although, paradoxically, constructions of Malay identity have been produced through foreign architects in the case of KLIA (Kurokawa) and KLCC (Pelli). These interpretations have produced a "Disneyfied" effect whereby the landscape of Cyberjaya has become a pastiche of different styles and narratives. The tension between state re-workings of modernity, indigenous narratives and exogenous political-economic forces continues in the next section with the example of the Saladin MSC branding strategy.

Figure 24: Promotional Picture for MSC Malaysia at KLIA with (from the left): KLIA Terminal Building, 5th Malaysian Prime Minister Dr. Mahathir Mohamad, Masjid Putra in Putrajaya, 6th Malaysian Prime Minister Abdullah Badawi, and KLCC Towers (Source: Author's Photograph)

6.4. Constructing Cyberjaya as a 'Sticky Place'

Cyberjaya was a territory positioned by the state as a 'sticky place' for the much heralded 'new economy' within the global capitalist system. This was based on a set of assumptions outlined in Chapter 3 concerning how globalisation creates a need for strategic spatial sites for the reterritorialisation of mobile flows - e.g. Harvey's (1982, 1985, 1989) 'spatial fixes' or Sassen's (2001) 'new spatial unit'. Evidence examined how technopoles have been mobilised as exemplary urban nodes for grass rooting the 'information economy'. This directly contradicts the anti-territorial internet hype embraced by the state to promote the original MSC vision (Chapter 4). Analogous to the way that 'poverty can lead to prostitution'

(Koolhaas 1995: 1031), MDEC set about implementing discursive and material strategies to correspond to the locational preferences of transnational capital as local conditions were "sold" by the state to create an adhesive urbanism to which companies, labour, capital would stick.

6.4.1. Creating a Competitive Image for Cyberjaya as 'Sticky Place'

'If you want to get the best girl at the ball, you have to wear a good tuxedo.'
(Research Interview: Head of MDEC SSO Division)

As previously examined, a range of urban place marketing and urban boosterism strategies are mobilised by states to promote technopoles as knowledge intensive, globally competitive, and world-class sites (Doel and Hubbard 2002). Discursive strategies were an essential mechanism through which Cyberjaya has been positioned as a 'sticky place' - constructing the image of success, is as important as success itself. Through the circulation of promotional materials, overseas promotion by MDEC, the establishment of a global network of MDEC offices, and public events at home Cyberjaya was discursively positioned as a dynamic new media hub. According to MDEC's self-congratulatory promotional brochures Cyberjaya is en route to reaching its goal of becoming an I.T. hub. Lists of new MSC status companies, plans for the opening of new R&D centres[74] are circulated to boost claims that Cyberjaya can become Southeast Asia's premier technopole. For instance, a wave of excitement greeted sycophantic local media reports that Hewlett-Packard would be opening an 'applications development centre' in Cyberjaya rumoured to house an eventual 1,000 knowledge workers (*The Edge Magazine*, 08.05.2006).

The section addresses the symbolic effects of one specific 'flagship' place promotion strategy mobilised by MDEC. MDEC's Creative Multimedia

[74] Plans were mooted that several MNCs would relocate to or open R&D facilities in Cyberjaya. This famously included Microsoft, but also, British Telecom, IBM, DELL, Cisco.

flagship seeks to attract MSC companies using multimedia and digital technologies to develop, create, add value to, and deliver content (http://cmc.msc.com.my/) in Cyberjaya's 'Digital Media Zone'. The zone contains the state funded Creative Applications and Development Centre (CAD-C) which includes a virtual reality centre, creative multimedia lab, and high performance computer. To promote Cyberjaya as a global multimedia hub the state funded an animation project (www.saladin.tv)[75] to promote the 'global brand' of Cyberjaya. The 'Saladin project' is an animation series based on the life story of Salah Al-Din Yusuf Ibn Ayyub who united Muslims in a holy war during the 12th Century Crusades. Saladin is planned to market the 'MSC-Cyberjaya brand' to a worldwide audience by producing 'world-class' intellectual property (IP).

The goal of the project was to produce an animated feature film for worldwide cinema release that would serve as a branding tool for the MSC. This was to be bolstered by spin-off projects such as video games, mobile content, a comic book series, a children's storybook, original soundtrack, merchandising, and education programmes. In total it is planned the 'Saladin project' will create 31 original products for 'multimedia export' over a 5 year period, create 773 jobs, 240 new trainees and collaborations with 18 different local companies (Research Interview: Saladin Director). After three years of planning, production began in 2006, and episodes are being made by Malaysians in collaboration with 'imported' foreign experts including an Australian Director. The contribution of the 'Saladin project' to the branding and promotion of the MSC can be summarised by the quote below from its director.

[75]Original plans that Saladin would be a feature film were shelved as it was decided an animation series would be more manageable. The series consists of 13 episodes each consisting of 22 minutes in length. The original plan had been to develop a feature animation but this was shelved after fears were voiced that the project would have been too ambitious. Now the animation series is being developed and the production team are still in the early stages of production. The entire production process will take 1 and a half to 2 years to complete.

> 'Malaysia isn't yet on the radar screen in terms of being a location. If Saladin can be successful, then other animators will ask: "Where it was made?"; "Malaysia"; "Where the hell is that?". So it will help to put Malaysia on the map, with Cyberjaya as the creative hub. If Saladin becomes an international success, if seen globally, and it becomes part of popular culture, then it could for sure. Success tends to drive success. Saladin is a visible thing, it is a piece of entertainment, so everybody can see it. Everyone can enjoy it. People know what the latest movies, are, but they don't know what is the latest technology, so that's how it is.'
>
> (Research Interview: Saladin Director, 2006)

Saladin is promoted by MDEC as a model for collaboration between foreign expertise and local brainpower. The project employed a team of more than 150 people and sets out to nurture Malaysian animators through exposure to production on an international project (Figure 25). Once completed, these animators would be encouraged to create their own start ups and 'galvanise the Malaysia Creative Industry through the coordination of local and international expertise' (Research Interview: Creative Multimedia Cluster). Therefore Saladin was imagined as both a focus of, and stimulus for the creative multimedia industry within Cyberjaya. It forms part of the ongoing MDEC strategy of what they refer to as "filling the pipes" with local content.

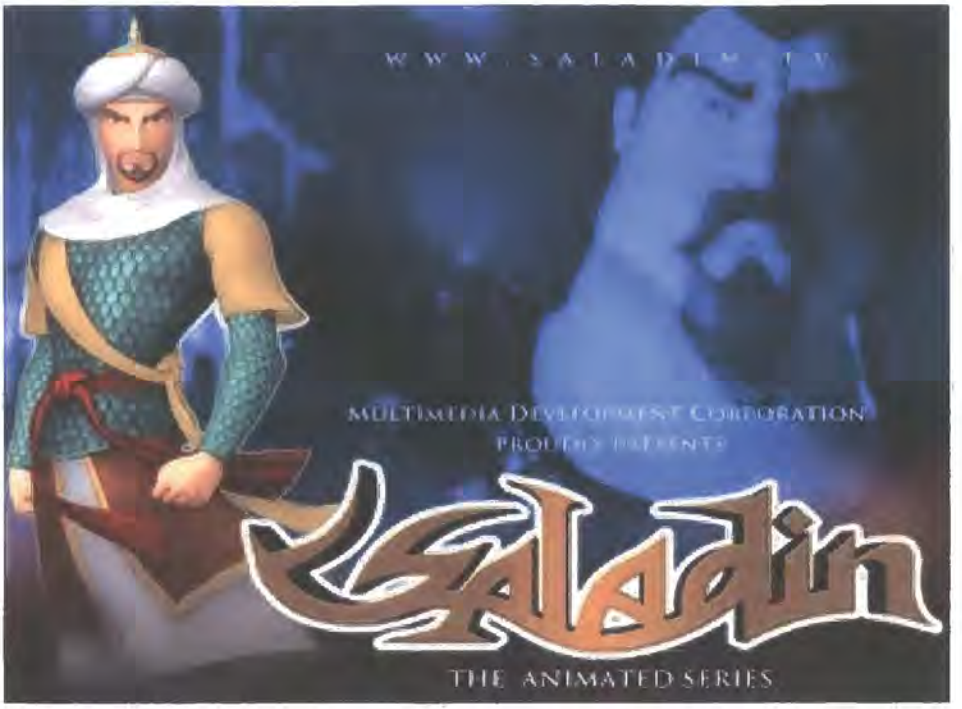

Figure 25: Screenshot from Saladin Animation Series (Source: MDEC)

At first glance the project appears to be a global marketing device to promote the MSC and celebrate Malaysia's aspirations of becoming a multimedia content hub. However, closer inspection suggests that the project functions as a scalar camouflage that masks underlying political agendas and tensions: between global aspirations and national integrity; between competing conceptions of Malaysian national identity; and diverging claims for cultural ownership of the MSC Malaysia project. Firstly, the project embodies Mahathir's calls for 'post-colonial resistance' heavily promoted at the launch of the MSC (Chapter 4). Mahathir was keen that local content would act as a bulwark against the potentially harmful effects of 'Westernised' global cultures through content that may not be suitable for a Malaysian (majority Muslim) audience. Souchou (2001) notes, for example, how Mahathir's distrust of the Western media became a radical gesture by the colonised subject to demand its ex-colonial masters to answer their sins. The 'Saladin project' can therefore be interpreted as another public

spectacle exemplifying Mahathir's 'Malaysia Boleh' sloganeering. Malaysia could 'tell her own stories' (Research Interview: Head of MDEC SSO division) rather than import them from overseas. Pushing local content production would have the dual effect of emphasising the 'Malaysian-ness' of the MSC project and reasserting the states control over inward flows of globalisation.

Secondly, the choice of an Islamic war hero to assert the MSC's global ambitions serves to reaffirm Malay hegemony politico-cultural and reflects the growing racialisation of national high-tech development in recent years. During the 2006-2007 fieldwork period, the MSC was increasingly caught up in the localised politics concerning Bumiputera participation in the I.T. economy. As of April 2007 there were a total of 1733 MSC status companies (MDEC 2007). Of these 326 were companies with a 30% or more Bumiputera equity share - the minimum requirement for private companies outside the MSC. Due to the perceived under-representation of Bumiputeras in the I.T. and multimedia sectors positive discrimination strategies have been promoted - under political pressure - to redress the balance and boost the overall number of Bumiputera I.T. companies in the MSC. MDEC has set up a new initiative (http://www.bumisme.com/) to promote entrepreneurialism amongst Bumiputera's within the ICT industry. This move encroached on government guarantees to companies that the MSC's special legal infrastructures would be exempt from labour laws affecting the rest of the country. Contrary to the rhetoric of embracing a 'free flow of knowledge workers' (*The Star*, 02.08.1996) the Bumisme initiative has endeavoured to promote specific ethnic groups and vested interests.

Seen from below, the MSC is far from a politically neutral space, but rather is bound up in localised political issues. At the time of writing, a growing sense of Malay nationalism was exemplified by Young Turks within the ruling

UMNO-party, led by Khairy Jamaluddin[76] who had repeatedly voiced public criticism of the MSC. Malay ultras argued that the MSC had served to undermine broader Bumiputera economic policies in the rest of the country (e.g. NEP) with its open labour laws and relaxed ownership regulations. In their eyes the MSC was in danger of creating an unregulated global space in which real growth is experienced by MNCs (including *Chinese* Malaysian, Hong Kong, and Singaporean capital), and where Chinese and Indian Malaysian participation has come at the expense of the Malays. Saladin was initiated to counter this criticism and reaffirm the '*Malay*-ness' of the MSC vision. In the wake of rising ethno-nationalism directed at the MSC the Saladin story presented a heroic Muslim narrative that directly appeals to a Malay audience to valorise Bumiputera support for the MSC.

Furthermore, the 'Saladin project' seeks to present a more acceptable image of Islam to a global audience. The project, though based on a historical context, is aimed at children and family audience. The animation series contains fictional everyday stories about Saladin which are unrelated to the historical events of war, conflict, and inter-religious strife. The project's goal is to promote an understanding about Islam via 'globally marketable' content. If successful it will serve to bolster Malaysia's claims to represent a moderate face of modern Islam. This is in line with Prime Minister Abdullah Badawi's promotion of 'Islam Hadhari' ('civilised Islam') as a progressive form of moderate Islam (Badawi 2008). In a post 9-11 world of extremism and growing Islamophobia Malaysia's self-positioning as a moderate Islamic state can be interpreted as a strategic measure to enhance global 'sticky-ness'. This can serve to further bolster the MSC brand and appeal to a global companies increasingly factoring in 'political stability' on their list of locational requirements.

[76] Khairy Jamaluddin is the son-in-law to the Prime Minister and a controversial politician within UMNO. He currently holds the position of deputy chief of the UMNO youth which is an influential organisation in Malaysian politics linked to the ruling party. He has been labelled by Jeff Ooi, Malaysia's most read blogger, as a new 'Malay ultra' due to his ethno-nationalistic opinions.

In summary, the 'globally marketable' content that the MSC seeks to produce is contested and reappropriated across both local and global scales according to different power geometries. Globally, Saladin is symbolically positioned as a brand of global proportions and exemplary of 'Malaysia Boleh' aspirations to develop its own 'world-class' intellectual property. Saladin seeks to emulate the success of Japanese Manga, or Korean cinema which have achieved global successes. To fulfil this ambition Saladin must 'go global' in order to promote the 'made in Malaysia' brand and support the state's MSC vision (Research Interview, Head of MDEC CMC division). As a promotional strategy, this will encourage foreign companies to relocate to Cyberjaya's 'Digital Media Zone', and in theory, enable synergies with local industry in the production of more global content. However, this content must of course be suitable for Malay-Muslim sensibilities. Nationally, Saladin is reworked through a narrative for promoting 'local' content and telling indigenous stories. This content is seen as a buffer against Western centric cultural flows (currently 80% of multimedia content is imported). The Islamic overtones in Saladin reassert the Malay-ness of the MSC vision in the face of public critiques from UMNO figures and Malay ethno-nationalists.

Saladin can be interpreted as a symbol of ambition straddling two conflicting directions: inwards to the politically dominant but economically backward Malays, outwards to a global economy dominated by the West which Malaysian strived/struggled to join but also resist as the neo-colonial face of a new world order. The 'Saladin project' together with the promotion strategies highlighted in Chapter 4 (Mahathir's world tour, promotional events by MDEC) were symbolic events geared towards re-branding Cyberjaya as 'sticky place' across multiple scales to reaffirm the imagined links between Cyberjaya and multimedia innovation. These promotional strategies are not value free but are used to promote specific political

agendas by vested interests. They represent a transcultural discursive space where local and global cultures meet, collide, and create multiple disjunctures

6.4.2. Asset Seeking or Plugging In? Material Strategies for Building a 'Sticky Place'

> 'The Malaysian government has spent billions of dollars creating the infrastructure here to make sure that when you talk about a world-class environment, you have it here in Cyberjaya.'
>
> (Research Interview: Head of MDEC SSO division)

Despite political posturing and state attempts to reassert the 'Malaysian-ness' of the MSC project, or hollow talk of promoting indigenous innovation and a new generation of Malaysian technopreneurs, the material preparation of Cyberjaya was driven by a simple economic reality: to attract foreign investment for the greater good. The material strategies for building Cyberjaya as a 'sticky place' followed three main mechanisms; environmental, legal and infrastructural. These provisions were produced in a specially differentiated extra-territorial urban enclave separated from the wider nation where global inflows of capital, people, and information could be encouraged on the one hand, but controlled on the other. This is a process akin to what Boyer (1992; 1996) describes as the 'Mini-Max' strategy whereby certain privatised, protected zones are promoted by local planners to maximise private gains at the expense of a collective good by minimising the maximum risks of doing business in a specific area. The classic example of this is in U.S. cities is the rise of 'Business Improvement Districts' (BIDs) which privatise city spaces and marginalise impoverished groups (e.g. the homeless) to promote economic development.

Consequently, Cyberjaya is materially 'splintered' from its surrounding locale through the creation of a new fortified urbanism (gated communities,

corporate enclaves, self-enclosed campuses, techniques of surveillance and control), a new legal environment (no censorship, cyberlaws, freedom of ownership, freedom to source capital globally, relaxed labour laws), and special infrastructures (fibre optic backbone, CCC, smart homes, schools etc). These strategies have been mobilised by the state as asset seeking strategies for FDI; i.e. MNCs investing capital in foreign countries, buying extensive assets or building new factories. This is a process described by Greider (1997: 81) as follows:

> 'When a multinational corporation seeks to shift production to low wage labour markets, a process of political bargaining ensues with governments competing for the new factories. Concessions are offered, deals are made, investment follows.'

In the light of this the state strived to create the 'ideal conditions' for foreign direct investment. Firstly, the urban planning and design of Cyberjaya created a locale for value-added globalised work practices. Chapter 5 discussed how utopian planning practices had the effect of creating a fortified suburb based on the garden city ideal. This was imagined to produce both a psychological space for innovation and a disciplined space dedicated to work practices. The resort style, business campuses of Cyberjaya were designed to appeal to the needs of MNCs.

Secondly, in Cyberjaya the state re-scales its activities via new politico-legal frameworks to attract multinational capital and knowledge workers regardless of their ethnicity or nationality. As a consequence state interventionism through the NEP was, temporarily at least, halted in all of the MSC to promote transnational connections. The state has strived to create the conditions favourable to foreign direct investment, reproducing global conditions in the domestic market, and delivering workers to MNCs. In the 1980s Mahathir resorted to state repression against labour union organisers

within the electronics industry to secure foreign investment in Malaysia. Strategies in the MSC have been (to date) less extreme, and focused on the 'Bill of Guarantees'. These allow for unrestricted employment of local and foreign workers, exemption from local ownership requirements, the freedom to source capital globally, financial incentives for MSC companies including investment tax allowance, ten year tax exemption, government grants for R&D activities, exemption of duties on imports of multimedia equipment, special new laws on intellectual property, no censorship and provision of globally competitive telecommunications tariffs. According to these incentives, the state is 'forced' to adopt neoliberal creeds in their economic management of a new territorial space and undertake structural forms for deregulation and privatisation or otherwise be excluded from global investment capital.

Thirdly, infrastructure became a 'strategic weapon' through which Cyberjaya is materially constructed as premium networked 'sticky space'. The provision of globe spanning, networked telecommunications infrastructures articulated with the new spatial-scalar imaginary of economic globalisation organised through networks, flows, and hubs (Chapter 3). Cyberjaya was wired with a 2.5-10 Gigabits per second fibre optic backbone to plug into global data spaces, information flows, and communications. Infrastructures were 'sunk' into Cyberjaya with the goal to produce a strategic global node for 'informationalised capitalism'. The high bandwidth connection allows for the transmission of high volumes of voice, data and video to ease collaboration between I.T. companies. These infrastructures function both as marketing tool frequently cited in promotional materials, and facilitate the offshore service economy.

> 'If you look around at other areas like Puchong, Dengkill [surrounding areas]. These don't have this infrastructure. Here everything is ready. Basically if you want to come in, you can do this, just build the building, and you can come in. It has the fibre optic, it is linked to the CCC, then to the

> LAN, the internet, so these are provided and make us unique. We can just hook you up to the network. Then on top of this on the BOG side, the Bill of Guarantees. This is promised by the government, these ten things, it is not given to any other places. It differentiates us from the others. Truly unique.'
>
> (Research Interview: Jaffrin, SH Technology)

However, these networked infrastructures create a 'tunnel effect' (Graham and Marvin 2000) linking Cyberjaya to other intelligent spaces across the world, while deliberately excluding the national territory in between.

> 'So from one building in Cyberjaya to access their branch in U.S. for example they will need a direct link from here to US, probably California. So we have the fibre underground, like submarine cables. The connection will enter Malaysia via the international gateway which is in Pahang. This comes in through submarine cable via fibre which can access anywhere in the world. If the company is getting data from Silicon Valley it comes through Pahang, then down to Cyberjaya. This is what the big companies demand these days. These are corporate networks, big business, so they need to be quick, reliable, and secure.'
>
> (Research Interview: Zaid, SH Technology)

Firewalled fibre optic networks create privatised telecommunications tunnels that allow direct firm to firm transactions, traversing the local to facilitate anytime global connections. As Sassen (2000; 2001c) observes the emergence of networked 'sub-economies' cutting across borders and inter-connecting corporations complicates any notion of a 'smooth' digital economy or universal cyberspace. ICTs allow corporations to operate globally and 'offshore' their back-office operations to less economically developed countries at a reduced cost. The embeddedness of these transactions entails the formation of large concentrations of infrastructure at strategic points across the globe that intersects and disregards broader national economies. Here the hierarchy that exists between core and

peripheral economies is replayed through the digital architecture of global informational hubs, and bypassed places. Malaysia becomes a host space through which transnational information flows traverse to and from specific strategic points but add little value. The 'new economy' that facilitates key sectors within the global economy such as the global outsourcing industry occurs through digital private networks that bear little relation to the public internet.

The 'enclave effect' is further supported by redundancies on network provision, electricity supply, and water supply. These provisions are viewed as essential prerequisites as MNCs demand guarantees in terms of supply and network security. In an age where global corporations are increasingly aware of the threats of terrorism, and the perceived vulnerability of global cities as business hubs, Cyberjaya offers a sanctuary for global data and core service operations. It has the twin advantages of being a disconnected urban space but highly connected through networked infrastructures. In the event of a mass power failure in Malaysia, Cyberjaya will still be servicing the global economy 24 hours a day to meet the needs of global capital. The above strategies were designed to position Cyberjaya as regional hub for I.T. and multimedia industries through the creation of a climate with 'the socioeconomic assets, innovative capacities, technological infrastructures, specialised skills, institutional networks, and sociocultural milieu upon which leading sectors of transnational capital depend' (Brenner 2004: 19).

6.5. Cyberjaya as a 'Slippery Space'

> 'Do we seriously think that leading I.T. companies will transfer their research bases out of the U.S. and Japan into Malaysia? Or will the MSC end up as just another free trade zone for low end multimedia products?'
>
> (*Aliran Monthly*, May Issue 1997)

In Cyberjaya, a concentration on spectacle and image had short-term political gains but masks the underlying condition of Cyberjaya as 'slippery space'. Beneath the hype of place promoting Cyberjaya as a 'multimedia utopia' it has become a global hub for offshore back-office, call centre, and data centre activities. Cyberjaya forms one of a number of newly constituted remote spaces in a globalising world; the other side of the geographical coin from the global 'command and control' centres like Silicon Valley. Unlike the 'sticky places' which drive global economic flows Cyberjaya is servicing them by managing data, customer service and accounts. Mirroring the spatial redistribution of electronics manufacturing, the back-office operations of MNCs have travelled around the world seeking out low cost labour at the geographical periphery of the global economy (i.e. developing world). Malaysia has openly embraced these inward flows of FDI both historically to boost export manufacture capability and today in its quest to promote a domestic high-tech sector.

Rather than invoke the power of MNCs in economic globalisation, the empirical enquiry sought to recover the material conditions, and crucially, the human geographies of these emerging 'slippery spaces'. In reconceptualising Cyberjaya as 'slippery space' the chapter seeks to do two things. Firstly, to highlight the disjuncture in the discursive construction of Cyberjaya as a 'sticky place' juxtaposed to its development as back-office hub. Secondly, to examine everyday practices in these globalised live/work spaces through ethnographic accounts with residents in Cyberjaya and staff within MNCs (Chapter 7).

6.5.1. Building a Cargo Cult: Cyberjaya and the Flawed Logic of Excess

Like Mahathir's other trademark mega-projects, Cyberjaya sought the headline, positioning itself as the most cyber, high-tech, siliconised, expensive, biggest, cutting edge, state-of-the-art technopole in the world.

The discursive construction of Cyberjaya and its material preparation was based on excessive hype and ambition.

Firstly, the corporate headquarters, resort urbanism and elite premium spaces of Cyberjaya were built on an *excess* of cheap capital, labour and the provision of a vast array of financial incentives for foreign companies (RM 5 billion spent by the state infrastructure alone). These strategies were to entice the regional headquarters of MNCs, the R&D divisions of global I.T. companies, and create a global hub for multimedia content creation and production. In the first five years of roll-out utopian MSC Malaysia branding strategies were almost limitless in their quest to attract capital and mobilise investment. Talk was of a space being prepared especially for economic dynamism, the creation of new products, and laboratories for innovation. However, ten years on from the hype, this utopian vision resembles a Malaysian high-tech fantasy.

The construction of Cyberjaya as 'sticky place' resembles something akin to a 'cargo cult' waiting for a payload that never comes.[77] This was based on excessive hope that Cyberjaya could become a new global hub and that Malaysia would create a new generation of start up multimedia companies.

> 'So we are looking to the creation of another Yahoo, or another Google. This is what we are pushing for sure. Why can't we? I think we are talking about creating a company which can dwarf the GDP of a country.'
>
> (Research Interview: Head of MSC Relations Unit, Multimedia University)

[77] The original cargo cults came to prominence during the period of the Second World War when native islanders in Polynesia encountered western artefacts dropped into the jungle for Allied soldiers as rations. Items such as Coca Cola bottles, radio transmitters, medicine, clothing, and basic tools were sources of fascination amongst tribes which had been previously completely untouched by western civilisation. The most famous example was from the islanders of Tanna located in the South Pacific. During this period, islanders were used as guides by invading forces and also worked to clear the jungle and build camps. The islanders were awestruck by solider's clothing, machinery and technologies. After the war the cargo drops stopped. However, in some cases tribes built mock air strips in the hope that it would attract more cargo to be dropped on their islands. Islanders would paint their bodies in the style of an American soldier and perform rituals which they thought would increase the likelihood of planes coming into land and dropping more cargo.

In this way, the state envisaged Cyberjaya as a virtual "landing strip" prepared for foreign capital, MNCs and labour to "land" in Malaysian territory. The 'MSC architects' worship the "gods" of Silicon Valley and their mythology plays heavily on the discursive construction of Cyberjaya as would-be innovative hub. Mythic tales of Bill Gates and a generation of Silicon Valley start ups turning into global players making overnight millionaires have inspired the 'leapfrog logic' of 'Wawasan 2020'. While their companies are transnational the Silicon Valley godfathers have become transcendental figures in the 'new economy' discourse. The Western artefacts worshipped in the MSC are MNCs, silicon chips, personal computers, software applications. Cyberjaya wanted to create its own mythology by becoming a new innovative milieu, like Silicon Valley, but better. However, like cargo cult members in the South Pacific the 'MSC architects' are waiting for planes that never came. The elite knowledge workers decided not to pack up and leave their corporate campuses in Palo Alto behind and exchange the Californian sun for the tropical heat of Malaysia.

Frustrated by this lack of progress Mahathir tried to literally transplant an entire R&D complex to Cyberjaya, with now disastrous effects. Invent-Q-Jaya is not a company mentioned in marketing brochures for the MSC. Dr. Sadeg Mustafa, a Berkeley University graduate, was a personal friend of Dr. Mahathir's. His company in the USA, named Reveo Inc, had a track record of 200 patents, and another 200 pending. Mahathir had visited the company in New York in 2002 and was so impressed with the work being undertaken that he invited Dr. Sadeg to relocate to Malaysia. He fitted the bill for everything that Mahathir strived to create in Malaysians: a Muslim entrepreneur, a technical expert, 'waving the Islam flag' (Research Interview: Editor, *NetValue Magazine)*. Mahathir had become increasingly frustrated by the lack of indigenous R&D coming out of Cyberjaya so financial incentives

were offered to tempt Dr. Sadegs' company to relocate to Cyberjaya. Invent-Q-Jaya was created as a joint venture between the Malaysian government and Reveo Inc. In return, Invent-Q-Jaya would offer frontier technologies, expertise, and know how. In theory patents would be transferred to Malaysia and open the possibility for future spin-offs to emerge. This was anticipated to be the start of developing a 'Made in Malaysia' brand of high value-added products.

However, when the patents were not forthcoming the government accused Dr. Sadeg of going back on promises made to the government. Subsequently the companies' bank accounts were frozen and a winding up petition filed against Invent-Q-Jaya over a RM 242 million 'debt' owed to the Malaysian Government. There were allegations from the Malaysian government that Dr. Sadeg unlawfully transferred RM 50 million from Invent-Q-Jaya to his company in America. At the time of writing court proceedings are ongoing between the two parties involving numerous allegations and counter allegations. The merits of the case are not important here but rather what is interesting are the desperate measures which the state went to in order to promote research and development activities in Malaysia. This ultimately failed, and with it any hopes that Cyberjaya had of replicating even a small slice of the Silicon Valley "effect". Now, the annual rituals of IAP meetings, self-congratulatory progress reports are nothing but an empty mirage of 'information age' hype.

Secondly, *excess* is based on the abandoned projects which were halted as money ran out or ambition simply overtook achievable goals in Cyberjaya. As utopianism rapidly overtook realism projects escalated on an excess diet of hype, expectation and often blind futurology. In the MSC projects were left half finished or simply abandoned as utopian visions were incompatible with material constraints. Cyberjaya is awash with half finished roads that lead nowhere in particular that have been constructed with 'future potential

development in mind' (Research Interview: Team Manager, MDEC Cybercities Division).

Excess was exemplified in the case of E-Village (Entertainment Village) which was planned, and built to become a premier hub for multimedia production in Asia-Pacific. E-Village was promoted via extravagant marketing campaigns and the project was launched with a spectacular fanfare (predictably billed as "Southeast Asia's answer to Hollywood"). Costing some RM 3 billion ($789.5 million) and covering 485 hectares E-Village was located in a sleepy rural backwater within the MSC called Dengkil. The vast complex contains Asia's largest sound stage, a virtual studio for animation production and there are plans for eight studios and other post-production complexes plus a training academy. Other than the 'Studio Precinct', two further phases involved the construction of theme parks, convention centres, health farms and shopping complexes. The opening ceremony drew in Hong Kong movie star Jackie Chan and a host of local 'celebrities' paraded by the government as constitutive of international approval for the project. E-Village was heralded by Mahathir as a new 'field of dreams' (*Asiaweek Magazine*, 17.08.2001) and represents yet another aspirational landscape in the MSC.

> 'For Malaysia and Malaysians this must easily be one of the more momentous occasions for us, as we stand here in the Sound Studio in E-Village to signify the beginning of an exciting new entertainment era and industry for our country. The development of E-Village and particularly the virtual and Sound Studios clearly demonstrates our ability to keep up with, if not be ahead, of a burgeoning IT industry and growing market.'
>
> (Mahathir 2000)

The vision for E-Village mixed Disney, Silicon Valley and Hollywood in one fantasy cocktail for urban planning. It is not surprising that the plan failed with catastrophic effects and became yet another 'slippery space' in the

MSC. It is unclear why the 'MSC architects' thought that Hollywood or Asian film industries (India, Taiwan, Hong Kong, or even Thailand) would relocate production to an otherwise disconnected spatial milieu far from the city. Furthermore, the Malaysian film industry operates on a low budget and is not large enough to support the E-Village project. The offer of cheap production overheads, government support, and a good pool of local talent was not enough to persuade companies that E-Village would be "where it's at".

The project was a joint venture between the Malaysian government and a local property tycoon Ibrahim Abdul Ghaffar. His company, Datuk Keramat holdings (DKH) was well connected to Mahathir and awarded the contract to develop E-VIllage - even though questions were being raised about whether Ibrahim had sufficient expertise or finance to carry the project off (*Asiaweek Magazine*, 17.08.2001). The DKH group owns London's Leavesden studies, where *Star Wars: Episode 1 - the Phantom Menace* was made. The company planned to was to transfer expertise from Leavesden to E-Village, but following a power struggle Ibrahim was removed from the DKH board. Despite this MDEC decided to give the project to Ibrahim to go it alone even though he no longer had access to Leavesden's know how. His company quickly ran short of cash and MDEC was left to find new investors to restart a scaled down version of the development. When no investors could be found, just months after the initial phase of construction in May 2000 the project ground to a halt.

Upon visiting the E-Village site during fieldwork in 2006 it was clear that the project that had been disbanded with nobody present except two security guards stationed at its 'closed off' entrance.

> 'After several hours of searching for a place that has been all but wiped off the map, and armed with some directions from a critical Malaysian journalist I finally made it to the site of the once hyped E-Village. What is abundantly

clear on first viewing is the project has been abandoned. A project which once sprung up in the middle of the jungle has now been reclaimed by the jungle.'

(Field Diary extract, 18.09.2006)

It is highly probable that E-Village will never see the light of day again since its buildings have run into a state of disrepair and flooding has overtaken parts of it.

'We don't talk about E-Village anymore. It is like an evil stepchild and it was terminated. The content industry can't be put in one location. That is why the rest of the MSC is being rolled out with more cybercities and cyber-centres so it is not location centric. This is the same with Creative Multimedia Cluster. We want to create companies coming up, regardless of location. Creative industries cannot be tied to locations. We want to see expansion around the regions.'

(Research Interview: Head of Creative Multimedia Cluster)

While critics would argue that the entire MSC concept has been a giant white elephant, E-Village is the most public manifestation of this claim. It represents a highly embarrassing failure for the Malaysian government and sums up the blind faith which was invested in mega-projects during the Mahathir era. It represents the archetypal 'slippery place' where foreign studios were invited to come and produce content but failed to arrive.

6.5.2. Servicing a World Elsewhere? Becoming a Global Back-Office Hub

Behind the urban boosterism of creating a "landing strip" for global capital which, combined with local enterprise was to become a dynamic 'sticky place' for multimedia production and innovation, is an alternative development history to Cyberjaya. Contrary to the logic of Silicon Valley replication, Cyberjaya has become a 'slippery space' - a physically splintered

urbanism locked together in competition over the spoils of economic decentralisation. Ultimately MNCs chose not to speculate on something which might not exist – the El Dorado of "Silicon Valley Asia" - and instead Cyberjaya has been quickly re-branded in a new inter-urban competition to become a globally visible location for back-office processes and SSO industries. In turn, financial incentives, telecommunications infrastructures, tax-breaks, a docile, often non-unionised workforce have become carrots for luring these industries into national spaces.

The shift of SSO industries and back-office work offshore appears to be a newer version of the export processing model of industrialisation embraced throughout much of Asia from the 1970s onwards in the guise of offshore branch plants for electronics manufacturing and assembly. Echoing earlier rounds of international competition, economic survival drew the state to re-brand Cyberjaya as back-office hub, driven by fears that, by staying out of the game, Malaysia would have been left to fester at the edge of the global economic system. MDEC is now actively re-branding Cyberjaya as Asia-Pacific's 'premier outsourcing hub' for MNCs. These claims were buoyed when Malaysia was voted third in a list of global outsourcing and shared services locations in a survey by consultants AT Kearney (2005) – immediately behind China and India - due to her competitive cost structures, developed infrastructure and political stability. The results of the report were widely circulated in MSC promotional materials and featured in the international press as evidence of the success of this new industry in Malaysia (Figure 26).

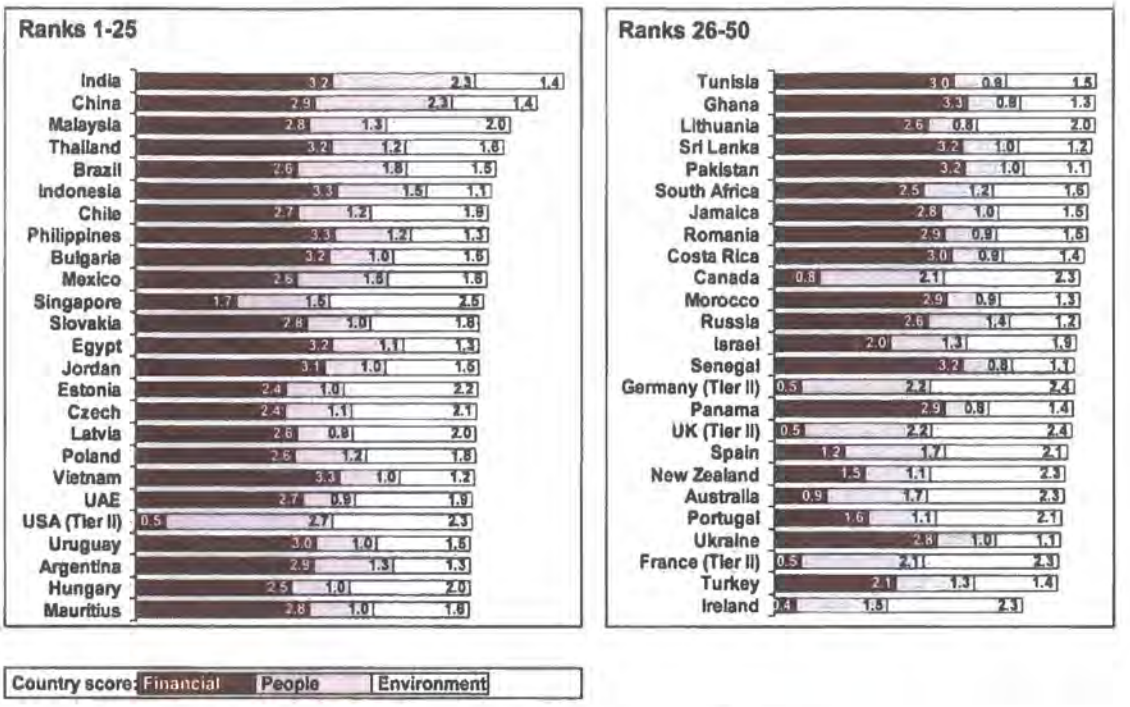

Figure 26: 'Offshore Attractiveness' Index (Source: AT Kearney)

There are 120 MSC status companies involved in SSO, accounting for 40% of all MSC jobs (Badawi 2006), with the majority choosing Cyberjaya as their regional base. Cyberjaya has become a hub for four main types of back-office operations. Firstly, Cyberjaya contains the global service delivery centres for large global companies looking for a regional base or global and regional service deliver centres for MNCs including Shell I.T. International (global I.T. helpdesk), HSBC (global electronic data processing), DELL (global service centre), DHL (Asia-Pacific I.T. services), IBM (Asia-Pacific customer support). Secondly, global SSO companies such as EDS (USA), Satyam (India) and ACS (USA) provide business process support services for domestic and MNCs. Thirdly, a number of emerging Malaysian SSO companies provide multilingual contact centres (Scicom, Vsource), I.T. support and management services (EA-CAP) and SSO services for foreign and domestic companies (Vantage Point). Fourthly, the need for secure, peripheral, isolated locations to house the web servers, data storage

facilities of global corporations has given rise to Cyberjaya's pre-eminence as a data centre hub (e.g. CSF, BMW).

The growth of Cyberjaya is symptomatic of a national boom in the SSO industry with Malaysia home to an estimated 320 contact centres with over 12,000 employees clustered around financial services, telecommunications and the I.T. sectors (Ng and Mitter 2005). The total revenue for these centres grew from RM 28.5 million in 1999 to RM 43.4 million in 2004, and is projected to increase to RM 185.5 million by 2007. With falling technology cost barriers by 2010 the expected job market for these industries is expected to grow to 100,000 and account for around 10% of new jobs in the technology sector (*The Edge Magazine*, 08.05.2006). To capitalise on the growth of the industry the state has relaxed its requirements that companies moving into the MSC should: (1) be a provider or heavy user of multimedia products and services; (2) employ a substantial number of knowledge workers, and (3) transfer technology, or knowledge, to Malaysia or otherwise contribute to the development of the MSC and the Malaysian economy.

There is therefore a growing acceptance that Cyberjaya is becoming Malaysia's 'new Bangalore' rather than Silicon Valley. For example, a piece in *The Star* (20.09.2006) ran under the headline that Cyberjaya was 'virtually there' in its quest to overtake Bangalore's crown as the number one global offshore service delivery centre for MNCs. Ten years on from imitating Silicon Valley as the blueprint for technopole planning the state's discursive positioning of Cyberjaya has shifted. Cyberjaya version 1.0 failed to replicate Silicon Valley but Cyberjaya version 2.0 is experiencing modest success as a back-office hub. Now Cyberjaya is rated in numerous 'offshore attractiveness' indexes by management consultants (e.g. McKinsey, AT Kearney, Frost and Sullivan) and repositioned in an urban hierarchy of competing SSO hubs in the region that comprises not just Bangalore but also Chennai, Hyderabad, Pune, and Kolkata in India; Cebu City in the

Philippines; Ho Chi Minh City in Vietnam; and Colombo in Sri Lanka (Services 2008). As a consequence, the city is at the forefront of efforts to promote Malaysia's emerging global visibility as a back-office location with its abundant supply of cheap, multilingual, non-unionised, skilled labour. The dislocation of this recent development - an ironic reversal of Mahathir's 'there is no alternative' sloganeering (Chapter 4) - vis-à-vis the promotional rhetoric of Asia's Silicon Valley has been glossed over by the state.

> 'I don't think it will become a content hub, now you have many back-office operations there. Now most companies do this, they need a hub, and a space, and the infrastructure. These companies need to put up a building with 2000 people and need lots of space. They need a greenfield site, whereas content developers don't need this. They are different they need other things. It wasn't the way we planned it, but now our competitive advantage is with SSO, and the back-offices so we have to go with this, and make the most of the investment.'
>
> (Research Interview: CAD-C Manager, MDEC Creative Multimedia Cluster)

The failure of Cyberjaya to become a genuine R&D hub is down to an oversight in the most important aspect of R&D culture - a high quality skill base. Despite the establishment of MMU, at the time of the MSC launch Malaysia had a shortfall of 35,000 to 40,000 'expert workers' required to make the MSC work (*Businessweek*, 01.09.1997). Compare this with India which produces two million university graduates per year, 80% of whom are English speaking (*The Economist*, 13.12.2003). There are also more I.T. engineers in Bangalore (150,000) than in Silicon Valley (120,000). While Malaysian graduates with engineering Masters cost one fourth of those in the U.S. the Indian graduates in Bangalore's top universities were twice as cheap as their Malaysian counterparts (Greider 1997). There is also a shortage of platform professionals such as Java programmers, Cisco experts and SAP consultants. Furthermore, the legacy of a protectionist, closed economy only now 'opening' to global forces has had a negative impact on

development. The government still has reservations about letting so many (non-Muslim) foreigners coming into the country despite the MSC's claims to become a global centre. One solution was to encourage the gradual return of Malaysian expatriates to work in Malaysia (the "brain gain" effect), but there was little tangible progress.[78]

It was perhaps inevitable that Malaysia's low cost, English speaking workforce would be ideally suited to call centre and service delivery operations. MDEC has tasked a specific Shared Services and Outsourcing Team (SSO) to attract more companies in a bid to cement Cyberjaya's reputation as a new 'global service centre hub'. Cyberjaya has sought to carve out its own niche in the global hierarchy of 'slippery space' locations for value-added back-office operations aimed at premium customer to business, business to business operations, and internal support (knowledge process outsourcing) - this is what MDEC terms 'high value outsourcing activities'. For example, several MNCs have offshored their entire back-office support operations to Cyberjaya (e.g. Shell, BMW). Added to this call centres in Cyberjaya are more focused on premium customers on high value tariffs serviced by specialised call centres where customer service is more personalised, and waiting times are quicker (e.g. Nokia).

MDEC has been quick to realise that Cyberjaya cannot compete with China or India in terms of volume or costs (the cost per transaction is 54 cents for Malaysia, compared to 53 cents for China and just 29 cents for India (Ng and Mitter 2005). Though Malaysia's cultural proximity to the two countries is emphasised in the multicultural marketing for the MSC.

> 'Malaysia has a multicultural and multi-religious population of 26 million, the result of a colourful history. Three main races – Malay,

[78] Since 2001 estimates suggest that just 300 Malaysian technical experts have returned. Many Malaysians overseas have been discouraged to return by the low wages on offer by working in Malaysian universities or public sector bodies (*The Star*, 23.03.2006).

> Chinese and Indian – make up the largest segments of the population. Because of its multicultural mix, most Malaysians are multilingual, and most speak at least two languages.'
>
> (www.msc.com.my, accessed 26-07-2007)

Malaysia's multilingual workforce seeks to attract specialised offshore services in order to 'move up the value chain' and differentiate the location from transactional call centres of Hyderabad or Bangalore servicing Western banking, finance, and insurance companies. Although as previously highlighted, this multicultural rescripting of national identity is a superficial measure which deflects attention from Mahathir's desire to promote science and technology primarily amongst the Malays as set out in his book on the 'Malay Dilemma' (1970).

The growth of the back-office industry confirms Cyberjaya's peripheral status on the edge of the global economy - 'servicing a world elsewhere'. Offshore locations are chosen solely to provide cost effective inputs for the corporate headquarters of the source nation. The infrastructure provisions have been complicit in sealing Cyberjaya's fate as a service centre. Fibre optic links to corporate headquarters in Europe, North America and Asia Pacific and redundancies on power, water, telecommunications facilitates global connectivity 24 hours a day, 365 days a year. These facilities are essential for offshore enterprises that are reliant on being connected electronically to their core operations. The urban isolation of Cyberjaya has been to the advantage of data centre and disaster recovery operations which are eager to locate in secure locations around from their core operations in urban centres. Furthermore, open spaces for development allow for large complexes to house 1,000 to 2,000 workers handling customer and business support operations.

Another major locational advantage for SSO industries is the ability to cover multiple time zones (Figure 27). In the promotional materials for MDEC's SSO cluster Cyberjaya's temporal position is privileged over its actual geographical location due its ability to seamlessly service MNCs round-the-clock. Cyberjaya is 7 hours from Europe, or 13 from the USA which means when Cyberjaya is online the rest of the world is offline. So the back-office processing can take place 'out of hours' to ensure work tasks are completed by the following working day. This process is known as the 'follow the sun' system where teams work during extended local business hours and assign or electronically hand off tasks at the end of their day to teams (at another location) that are just starting their day, effectively yielding a 24 hour development clock. IBM has been a pioneer in this method and their Cyberjaya contact centre is structured along these lines. This is taken one step further in HSBC Cyberjaya which operates a 36 hour shift in its electronic data processing centre to cover working practices across all three major time zones (3 times 12 hour shifts corresponding to Europe, North America and Asia-Pacific). Companies in Cyberjaya work on a round-the-clock basis because many are servicing the global corporate operations across all time zones (e.g. Shell, DHL, HSBC). This, as Crang (2007: 72) notes, is one step closer to the corporate dream of using geography so work 'can be done around the globe, each worker sending off material to be processed by another while the sender is absent, to be awaiting him or her, completed, upon his or her return.'

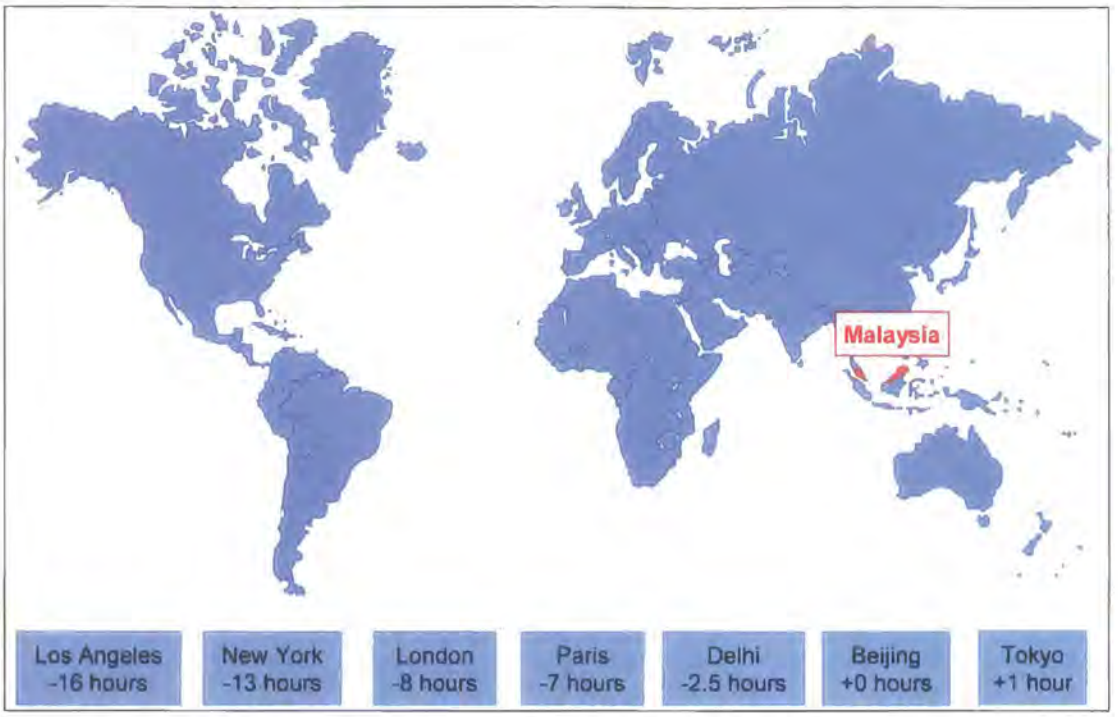

Figure 27: Position of Malaysia in World Time Zones (Source: Gartner Consulting)

In the case of P2iOnline is an outsourcing company servicing North American Newspaper corporations. The company employs 130 local staff and provides a classic example of how Cyberjaya's SSO companies work round-the-clock to service global economic flows. P2iOnline headquarters is located in Pennsylvania, USA and the company has offices throughout North America. The Cyberjaya office is the only offshore operation in the company and was chosen due to its low costs, good level of English within the local workforce. Before the company opened the Cyberjaya branch in 2001 there was a similar office located in Yorkshire, England. However, this office was closed due to rising costs and it was decided that an offshore branch should be opened in Asia. Numerous locations were discussed but India was ruled out due to perceived 'saturation' in the market in 2001. Cyberjaya was seen as a good location partly due to its temporal position 13 hours in front of New York, 16 hours for Los Angeles.

The company converts newspaper content from *Los Angeles Times* and *New York Times* into internet accessible content for their online editions. The newspapers 'dump' content with P2iOnline at the end of their working day, the files are processed and converted from text to PDF files and sent back to host servers in the USA for them to host it on their websites by the next morning. The company works on a 24/7 basis with two teams covering daily 12 hour shifts. For example, one shift will cover when the period when the *New York Times* (10 pm Malaysia time) and *Los Angeles Times* (1am Malaysia time) come 'online' in the morning. These will be processed during the Malaysian evening and ready to be sent back to the offices by the following working day in the USA. Another team will be on hand to pick up work at the end of working day at 5pm in New York (6 am Malaysia time) and Los Angeles (9am Malaysia time).

24/7 working to service overseas markets is symptomatic of the process of 'colonisation by time' (Adam 2002) whereby SSO industries follow the hegemonic beat of a time zone elsewhere. For example, in the entrance to Shell I.T. in Cyberjaya there is a display of 'global time zones' denoting the locations of other Shell offices around the globe. This includes Houston, The Hague, London, New York, and Bangalore. The display can be read in two ways. Firstly, the row of clocks presents 'a smooth working global economy, held back only by time zones, and a software operation which seamlessly manages a variety of transnational connections' (O'Riain 2004: 16). The display symbolises 'friction free capitalism' (Gates 1995) transcending place and distance integrating planetary transactions 'anytime/anywhere'. Secondly, paradoxically, the display merely reaffirms Cyberjaya's status on the periphery of the imagined and actual grids of global time zones. Cyberjaya functions as a night zone in the temporal economy of outsourced, peripheral processing activities. While back-office operations are conducted on a 24/7 rolling shift basis many SSO companies do the bulk of their work during the night shift. Cyberjaya's workers come online during the night-time

hours in order to service these economies and ensure that when the staff of offices in New York, The Hague, or London come online tasks have been completed in Malaysia.

Time becomes a resource that is open to commodification that is controlled by the interests of capitalism and MNCs who require synchronous 24/7 servicing of their back end, low value-added operations. The temporal gap between Cyberjaya and the latter is seen as an advantage to allow Cyberjaya to plug into global flows during the 'night shift' to service the global economy (as seen with the example of P2iOnline). While international companies have their transactions embedded in the real-time of a global 24/7 always on global informational economy, time for local workers is still very much embedded in localised social contexts. As following chapter explores, this affects family relationships, health, and everyday living practices in Cyberjaya. Workers on the night shifts are detached many social spaces which only function during daytime hours when many workers are catching up on their sleep. Servicing a 'space of flows' often serves to disrupt the relationships between the temporal-social rhythms of Cyberjaya and those of the workplace.

While Cyberjaya's back-offices highlights the immobility of time in the capitalist system. There are also points to be made concerning the flawed nature of 'anytime/anywhere' 'new economy' discourses. The increasing sophistication of global telecommunications networks across space has not created a kind of 'placeless globalism' (Parks 2004) in which all capital is necessarily footloose and production locations equally substitutable. This has not resulted in MNCs relocating their operations to absolutely anywhere where there is a pool of untapped cheap labour. These 'new economy' myths have been prone to a form of 'economism' (Pratt 2000) where it is assumed that economic factors are the only consideration in location. If this were the case then surely Africa would be the dominant global hub for SSO

activities in the global economy? Despite predictions regarding a 'weightless economy' (Leadbeater 1999) leading to cost free production or electronic commerce, *locality* is still important in the global economic system. While P2iOnline can do its telework *anytime* it cannot do it *anywhere*. Decentralisation along the lines of the 'new international division of labour' is leading to an increasingly embedded global economy. While capital has become increasingly volatile, transnational in nature it touches down in strategic places, where territory offers the best scope for creating value for capital - what McKay (2001) calls 'neoliberal localisation' .

> 'Global integration leads to a concentration of power and control and, thus, to the rise of centres. Although this process is transnational, it is spatially anchored at particular places that are located within major cities or metropolises.'
>
> (Berner 1997: 99)

Cyberjaya's emergence as a back-office hub demonstrates that while SSO industries embody 'distance-shrinking technologies' they are drawn to, and rooted in, very real places necessitated by the search for material infrastructures and human capital.

> 'Thus, although technological developments at the heart of call centre operations render them relatively "footloose" in locational terms, the search for specific labour supply characteristics and the need to be close to existing concentrations of allied activity and premises make certain areas more attractive than others.'
>
> (Bristow et al. 2000: 512)

This reflects the economic reality of FDI asset seeking which is still concentrated in around 20 countries, few of which have shown significant growth over the past 30 years (Sussman 1998). SSO industries prefer low cost politically stable locations in which the population speaks English to a

level required for the global back-office. Call centres increasingly rely on language, communication skills, cultural knowledge and I.T. infrastructures to guarantee customer service quality. As the quotes below from MSC companies suggests, Malaysia was seen as a place that 'fits the bill' for back-office operations. Cyberjaya offered an attractive package for these types of operations compared to other potential back-office hubs in India, or elsewhere in Southeast Asia. In short, contrary to the globalisation speak highlighted in Chapter 3 geography still matters. This is highlighted in the following quotes from MSC status company executives which highlight how multinational capital has become spatially embedded at strategic sites.

> 'We looked at a whole range of countries in that region (Asia-Pacific), and the criteria they set up was that it had to be stable and peaceful, and whatever. It had to be a place where we already had a presence, to make it easier to set up. It had to have the right quality of people and it must be cost effective. So they quickly ruled out Australia and New Zealand, because costs wise too high. They looked at other places like Singapore, China, Japan, and Hong Kong. Singapore wasn't good enough for the pool of talent, China is has problems and a lot of politics. Japan was too expensive. Hong Kong the same. The English also not good. We sub-edit the material here, so the level of English has to be at editor standard for Australia or UK. So it must be good. So with Malaysia we felt we could find a) the right level for people and b) the government was willing to sponsor a lot of it, and provide a lot of help, like tax benefits. The government painted a good picture for Cyberjaya. We felt geographically it was central, connected in terms of telecommunications and politically stable. Also the labour costs, while not the cheapest, they were for sure competitive.'
>
> (Research Interview: Country Manager, WoltersKluwer)

> 'Don't come here if you want to hire 10,000 people for a call centre. If you need this go to India. For a couple of thousand, it has its own advantages here. I think this can be a good thing. Malaysia is multilingual, so you can do this from Malaysia, you also have much better physical infrastructure here.

> The government support is here. India and China they are taking off, but its unplanned. They have a massive population. Malaysian doesn't have one billion people, so it just needs to keep in the top 5 locations for this kind of activity, and build the ecosystem. Cyberjaya can coexist with its competitors. It doesn't need to fight the giants, just to play along with them. You can't compare Malaysia to these countries. Malaysia needs to learn from them and strive to get business from them.'
>
> (Research Interview: Country Manager, Satyam)

While Cyberjaya has become a hub of sorts for SSO industries its 'sticky-ness' is qualitatively different from a traditional 'innovative milieu' where companies, universities, and people are tied together through strong bonds of 'institutional thickness'. Companies are ingrained in the fabric of traditional innovative milieu through recursive educational networks, career linkages, and the mutual sharing of ideas (as found in Silicon Valley).

Empirical research found this to be extremely limited, or non-existent, in Cyberjaya with forward and backward linkages to the local economy minimal. For example, joint ventures in Cyberjaya were supply dominated, labour intensive, and took advantage of the low cost skills provided by the local labour market (e.g. Fujistu Cyberjaya). Such arrangements were invariably mobilised to enhance market entry for technology suppliers than to promote the technological capability development of host countries. The failure to produce innovative capacities in Malaysia can be partly attributed to a historical legacy of 'export-oriented' industrialisation whereby foreign companies used Malaysia as an offshore manufacturing base. As Malairaja and Zawdie (2004) observe, despite 40 years of Malaysian industrialisation, as one of the leading recipients of FDI in the world, there has been virtually no technology transfer to indigenous companies. The lack of industrial innovation has resulted from inefficient technology transfer agreements, the weak bargaining positioning of the state, few backward economic linkages

from FDI, and inherent problems of learning and skill development to prepare local companies for the move up the value chain.

The back-office operations of MNCs function as economic islands. In interview with the MSC companies, no evidence was found of cross flows of collaboration, information exchange or inter-company communication. Although MDEC organised monthly meetings between companies these were addressed at tackling wider community issues in Cyberjaya ranging from provision of car parks to negotiations about bandwidth. In back-offices there is no need for cross-fertilisation when companies are engaged in fairly rudimentary service oriented functions and vertically integrated with the wider company at large. Alongside infrastructure the main local input these industries use is labour which is low cost, compliant, and well disciplined. With vast financial incentives capital investment is very small in MNC terms. Companies rent their office space, infrastructure is leased from state owned Telekoms Malaysia so little capital is sunk into the landscape. If political (instability) or economic (recession, financial crisis) conditions in Malaysia were to change MNCs would be able to withdraw their SSO operations from Cyberjaya and relocate to a suitable location elsewhere. These companies demand such strategic territorial enclaves to service their global operations (i.e. mobility requires fixity). 'Spatial products' the world over are providing safe havens for SSO operations leading to abundance of locational choice for MNCs.

Like the Export Processing Zones (EPZs) which preceded it, Cyberjaya has openly embraced private industrial markets and export-oriented development in the form of back-office services for foreign subsidiaries. A similar pattern is repeated here with Malaysia's EPZs of the 1980s when places like Penang became manufacturing hubs for the global electronics industry. Electronics were at the time hyped as being part of the advanced order of high-tech. However, despite a 25 year legacy of export-oriented electronics

manufacturing Malaysia received little technology transfer or skills training from the sector (Sussman 1998). As Mahathir acknowledged, these schemes have not facilitated a shift up the value chain:

> 'Despite the most rapid development in the free trade zones, insignificant demand has been generated fro local intermediate products. There is little value-added, too much simple assembly and production.'
>
> (Mahathir 1991)

For example, a study by Bell et al (1996) found technology transfer capabilities including joint ventures did not enhance local innovative capabilities in Malaysia due to the heavy reliance on the export-oriented electronics sector which thrived based on R&D intensive imported technologies. Behind MDEC's claims that progression from manufacturing plants to call centres is a step up the value chain are fears that Cyberjaya will occupy a precarious position in the global economic system. The criteria outlined in the above quotes from MNC executives could have equally been applied to electronics manufacturing plants in Penang 20 years ago.

MNCs were enticed by cheap labour and the incentives offered up as part of the MSC vision. While the arrival of DHL, Shell, and HSBC were heralded as 'big wins' by MDEC there is no guarantee that these corporations will stay in the aftermath of further rounds of global neoliberal restructuring (Jessop 1999, 2004) or that they will contribute the broader goals of Malaysian economic development (as framed in the utopian 'Wawasan 2020'). It seems a case of not *if* Malaysia will lose its competitiveness in SSO industries (just at it did with electronics manufacturing to China) but *when*; and with the rise of new SSO players in the region (e.g. Philippines, Vietnam) the clock is already ticking. If Cyberjaya becomes increasingly 'slippery' it may well develop into a rudimentary business park or, in worst case scenarios, disbanded altogether.

Mobilising national development goals through technopole development reliant on FDI asset seeking is a risky strategy. Often these global corporations are disconnected from the lives of their immobile employees and have no vested interest in their 'host' country. As *The Guardian* (15.10.1994) noted over ten years ago: 'although often dressed up as altruistic, the motives for the company are usually self-interest'. In this light the chapter has argued that rather than producing the utopia of a globally inclusive 'information society' it is more likely that planetary telecommunications networks will further divide the global economy into economic zones of the developing world which 'serve as enclaves in information processing, rather than as equal members of a global knowledge community' (Skinner 1998: 64).

6.6. Conclusion

The chapter has argued that the branding of Cyberjaya as Silicon Valley style technopole were 'scale-making' strategies to appeal to globally mobile investment capital, MNCs, and workers. On this basis urban space and infrastructures were prepared to create a 'packaged' urban environment to meet the needs of global capital, and state politico-legal frameworks were customised accordingly. Such processes were also based on technologically deterministic assumptions about the possibility of ICTs to allow for new wired urban spaces to plug into global flows through networked infrastructures. The chapter has directly critiqued the high-tech utopianism of an 'anytime/anywhere' 'new economy' through the critical lens of Malaysia's failed vision for turning jungle into a R&D hub of global proportions. Attention focused on how the global economy is always embedded, partly localised and globalised, producing new 'glocal' hybrid spatialities (e.g. urbanism and architecture) and temporal modes of being (e.g. back-offices). In the case of Cyberjaya's shift to SSO, locality is increasingly important, but it is a locality

reappropriated for the needs of multinational capital in a *space of tension* with politically infused localise narratives (e.g. Saladin, MDEC building)

The latter half of the chapter has demonstrated that beneath the excessive hype of creating a 'sticky place' for capitalist globalisation, an alternative narrative emerges. While the MSC has produced some "success stories" (e.g. Iris Technologies, a Malaysian company developing smart cards and electronic passports) these are isolated cases. Beneath the messianic façade of ICT urban boosterism strategies lies a disconnected corporate enclave servicing a world elsewhere. The chapter has argued 'slippery space' occurs through multiple mechanisms: *physically* through urban disconnection and infrastructural splintering; *politically* through state role back from the MSC; *economically* in low valued-added routinised work practices; and *temporally* in servicing a 24/7 offshore economy.

However, the thesis seeks to avoid substituting the utopianism of Cyberjaya as 'multimedia utopia' with an equally dystopian vision of the global back-office as a 'dark satanic mill'. As Ng and Mitter (2005) note, although the wage of workers are lower than their counterparts in the global North, call center workers are paid on a par with, if not more than other graduates in Malaysia. Simplistic arguments on the 'information society' which views the growth of SSO industries as a new mechanism in 'cyber-colonialism' (Sardar 1996) should be avoided. As the following chapter demonstrates, back-office staff learned new skills and became exposed to Western management techniques, work environments and practices. Examining the disjuncture between the symbolic construction of Cyberjaya as 'sticky place' and its material reality as 'slippery space' is the first alternative narrative for technopole planning practices in the thesis. The following chapter examines the experience of "lived everyday-ness" in Cyberjaya drawing upon ethnographic research with back-office workers and Cyberjaya's smart home residents. These accounts further challenge the wobbly discursive

architecture of technopole planning strategies and the utopian promises of a new 'information age'.

Chapter 7. Towards "Intelligent" Live/Work Spaces? A 'View From Below' in Cyberjaya

7.1. Introduction

The chapter examines Cyberjaya's claims to create the 'world's intelligent city' through ethnographic fieldwork of everyday living and working practices in the city. The chapter illuminates the experiences from two different groups who reside in the *Cyberia Smart Home Complex* in Cyberjaya. Firstly, following analysis in the previous chapter, Sections 7.2 and 7.3 attend to the technologically mediated everyday work practices of back-office labour in MNCs. In the second half of the chapter, Section 7.4 draws upon in-depth interviews with smart home residents in Cyberjaya to examine everyday encounters with information technology in the home. Both the corporate workplaces for MNCs and the smart homes of Cyberjaya were designed to produce globalised, high-tech spaces for 'intelligent' living and working in Malaysia's 'information society'. However, as the chapter proceeds to explore in both examples, they produce paradoxical spaces that are far removed from the techno-urban imagination promoted by the 'MSC architects' and the planned predetermined effects the city would produce on its citizens (Chapters 4 and 5).

The chapter explores these disjunctures by examining the everyday practices of individuals living and working in a transnational space that is globally orientated both discursively (e.g. as the 'world's intelligent city') and in material terms (via networked infrastructures, urban planning models, MNCs). These flows are transnational in reach in the sense that they transgress national borders in a multitude of ways. This occurs in obvious ways, such as the import of urban planning models and architectural designs (Chapter 5) or the global reach of the telecommunications grid (Chapter 6),

but also in less obvious ways. Examples discussed in the chapter includes the spatio-temporal consequences of 24 hour shift working in MNCs, affectual responses to habitation in Cyberjaya's bucolic high-tech urbanism, and the circulation of promotional materials for Cyberia condominium units to potential investors overseas in Hong Kong, and Singapore. The analysis examines the disjunctures that arise when global flows meet, rub up against, and intermingle with local cultures, places. The chapter shifts analytical focus from the discourses of technological utopia mobilised in promotional materials to the everyday textures of the globalising places we inhabit. According to Smith (2001), such disjunctures result in confusions about the spatial and temporal context in which 'locality' is lived and experienced in our globalising, transnationalising world. Rather than place the 'local' or the 'global' in antagonistic terms as a binary opposition, the research engages with the social and cultural constituents of urban transformation in Cyberjaya. To this end the chapter challenges technologically deterministic assumptions about the socio-cultural 'impacts' (Chapter 5) of ICTs in Cyberjaya and elucidates emerging human geographies as they are experienced "from below".

7.2. Producing the 'Information Economy': Everyday Work Practices in the Global Back-Office

The first vignette examines globalised work practices in Cyberjaya's Shared Services and Outsourcing (SSO) Industry and the transnational networks of social practice that maintain and service the global offshore economy. This draws upon participation observation of, and in-depth interviewing of, two groups of back-office support workers recruited in Cyberjaya. Firstly, a group of Malaysians employed in the Shell I.T. global support centre. Secondly, a group of Indonesian call centre workers employed in the IBM Asia-Pacific contact centre. These back-offices can be conceptualised as exemplary spaces of globalisation integrating transnational information flows, globe

spanning telecommunications networks and local infrastructures in a fixed spatial milieu. For 'hyperglobalists' (Held et al. 1999) back-offices are the living embodiment of how the 'space of flows' supersedes a 'space of places' somehow disembedding social relations across time and space, eradicating geographical distances in the process. Challenging this overtly deterministic reading of high-tech globalisation, the chapter reveals the spatio-temporal disruption that suffuses everyday work practices and their effects on staff whose connections span the globe whilst being strategically concentrated/isolated in a specific place. To this end, the back-offices of MNCs produce another paradoxical space of disjuncture and difference in Cyberjaya.

The empirical approach critiques meta-narratives of a "top down" globalisation project by focusing attention on how globalised processes are achieved, and by whom. Too often the process has been conceptualised in a deterministic manner proclaiming the onward march of neoliberal capitalism, all powerful MNCs dominating and mastering the global 'space of flows' for their own ends. It is often depicted that at the bottom of the global pecking order are underpaid, undervalued workers in the 'slippery spaces' of the developing world whose role it is to service, and manufacture for the global economy. What these accounts overlook is that these global processes are not self-generative but instead are actually *produced* (Sassen 2000) in strategic sites like Cyberjaya.

This move reflects, and is supportive of, a burgeoning literature critical of 'globalist' representations of economic and social transformation to examine how globalisation processes are grounded and experienced through the everyday (Amoore 2002). By probing at these *practices of globalisation* the chapter seeks to 'reveal the intersecting effects and material consequences of so called globalisation in a particular place' (Katz 2001: 1214). Through qualitative methodologies the sections analyses the role of back-office staff

in processing transnational information flows, the contribution of these work practices to new identity formation, and the gendered and racialised politics of work in MNCs in Cyberjaya. Examining these processes can help to uncover further 'cracks', as Sassen (2001a) argues, that occur at the margins of the global system. Calling to attention these cracks underscores the paradox between the representation of Cyberjaya as 'multimedia utopia' and its position as a 'slippery' economic space in an emerging urban hierarchy of offshore service centres (Chapter 6).

While there is a lacuna of research on back-office labour practices in the Malaysian context, other prominent accounts include Freeman's (2000) research on female identity and back-office work in the Caribbean and various studies of Indian call centre workers (Mirchandani 2004; Taylor and Bain 2005; Shome 2006; Poster 2007). Gender studies have focused on feminist politics or resistance to the perceived patriarchy of neoliberal economic globalisation (e.g. Mullins 1999; Bergeron 2001; Bonds 2006). Meanwhile work in management studies emphasised the emotional and psychological pressures of working the night shift and the demands this entails (Taylor and Bain 2000; Deery et al. 2002). However, the labelling of back-office staff as 'cyber coolies' or an 'offshore proletariat' (Stanworth 1998; Gaerlan 2004; Gurumurthy 2004) obscures the wide variety of labour processes and transnational connections found in global back-offices (Taylor and Bain 2005). Thinking with critical globalisation scholars (Hay and Marsh 2000; Ley 2004), who have attempted to bring the subject back into contemporary debates, the research examines the technologically mediated nature, and spatio-temporal consequences, of globalised social relations as they are produced in the daily work practices of these staff in Cyberjaya. The 'view from below' brings into focus the often invisible 'labour in the making of the information society' (Sussman and Lent 1998).

Far removed from the R&D activities of the knowledge brokers in California's Silicon Valley, Cyberjaya's back-office staff are plugged into computer terminals on rotating 24/7 shifts to ensure that the information economy never goes 'offline', and that no time is lost in the effort to accumulate profit and circulate capital. Forming the bottom tier in the 'new international division of labour' (Frobel 1980) these back-office workers are trapped rather than mobile, isolated in corporate offices. In the case of the communities of IBM and Shell workers these individuals are plugged into flows of information that serve to enable the smooth operation of MNCs who are global in reach, yet locally situated in Cyberjaya.

As the quote below from the then Deputy Prime Minister, Abdullah Badawi, illustrates the arrival of Shell IT was heralded as evidence the location could compete globally and symbolised Cyberjaya's growing status as a 'leading service delivery hub'.

> 'If you travel across Malaysia today you will see a semblance of our nation's transformation from agriculture to industrial based, as you weave through plantations and paddy fields, and come to large manufacturing plants and industrial estates. But here in Cyberjaya you witness something more - the bold stroke, the stark vision of our aspirations - to transform yet again, and become a knowledge based, information led society. The launch of Shell I.T. today continues in this vein and marks yet another milestone in the progress and growth of Malaysia's I.T. landscape.'
>
> (Badawi 2002)

Shell's arrival has been incorporated into the (re)branding strategy to promote Cyberjaya as the 'new Bangalore' rather than a failed 'siliclone' (Chapter 6). The Shell Corporation is an operation with a global span covering over 140 countries, and employing over 108,000 people across multiple time zones from USA, to Europe, to the Far East. The spatial organisation of the MNC mirrors that of the global economy, which is

simultaneously partly deterritorialised, but also deeply territorialised: 'they span the globe, but they are strategically concentrated in specific places' (Sassen 2000: 225). The company's Cyberjaya office is the information technology contact and support centre for the entire Shell operation worldwide. The Cyberjaya location was chosen over 8 other location options (including Singapore and Hong Kong) to become the base for its 24/7 I.T. business support services comprising 1,000 staff. With an emphasis on 'building a multinational with a Malaysian heart' (Badawi 2002) 70% of the Shell Cyberjaya workforce is Malaysian. It is estimated that the company worldwide has some 75,000 desktop computers and 1,500 servers that need to be maintained and supported round-the-clock (Research Interview: Saiful, Shell). Prior to the centralisation of I.T. support in the Cyberjaya office, this function was undertaken at the regional level by contact support centres. Since the opening of operations in March 2002 the building receives an average of 11,000 calls per month, 24 hours a day with uninterrupted service.

Saiful is a Shell I.T. manager in charge of a team supporting a vital Shell software application which is used by staff across Shell worldwide. His journey to Cyberjaya is a transnational flow in itself. After studying abroad in Australia, he joined IBM working in Melbourne. However, Saiful wanted to return to his native Malaysia to find a job within a MNC with a local office. He jumped at the chance to work in Cyberjaya with Shell with the expectation it would provide him with the skills to succeed in the local job market and offer better pay compared to a local company. Empirical research illuminated three features of everyday work practices of back-office staff from Shell and IBM in Cyberjaya. These globalised work practices were characterised by: (a) the colonisation by time; (b) behavioural decoupling of time zones; (c) location-masking. Following a discussion of these practices the chapter examines their intersections with identity formation for Cyberjaya's new generation of 'intelligent' citizens.

7.2.1. Maximising Global Productivity or the Colonisation by Time?

The birth of 24 hour operations amongst MNCs can be seen in the context of two important trends. Firstly, is the acceptance, and gradual adoption of clock time as the organising mechanism for the globalised capitalist system. As Bartky (2000) and Kern (1983) argue, the imposition of a standard time replaced the myriad of local times, and regimes that preceded it. Now standard time, time zones, and the notion of world time has become a major organising principle for globalised capitalism (exemplified in the 24 hour trading regimes of global finance markets). Secondly, increasingly there has been what Adam (2002) terms the 'commodification of time'. In short time is money. The transition to clock time as the organising principle for capitalism has meant that the twin forces of time-space compression (Harvey 1990) and rationalisation are king. This has led to a range of time money saving economic processes such as Taylorism, Fordism, just-in-time production methods to name but a few.

We can add to this list the proliferation in the last ten years of offshore information production sites which enable the core economies of Europe and North America to function round-the-clock. As Crang (2007: 62) observes 'ICTs not only allow global reach but also use space to overcome time' as they have evolved from a tool for facilitating distanciated relations to one for capitalizing on this by integrating different time zones to enable round-the-clock working. In this latest phase of high-tech rationalisation time becomes a resource open to commodification which corporations strive to control and master in their quest for maximum efficiency. Malaysian workers can undertake the mundane, low value-added tasks whilst their better paid counterparts are tucked away in their beds in the affluent suburbs of global cities. The logic of powered up 24/7 global capitalism bears little thought for its potentially disrupting or dislocating local impacts.

As stated in the previous chapter, Malaysia was developed as an ideal back-office location due to its temporal position traversing multiple time zones allowing it to service multiple markets (e.g. P2iOnline). A prominent feature of everyday work practices in Cyberjaya's back-office is the need to negotiate multiple time zones to service the global operations of the MNC. Traditionally globalisation scholars have been blind to the effects of time on human actors as it is experienced 'on the ground' (Bauman 1998). By rendering explicit the 'shadowlands of practice' (Adam 2002) that constitute globalised economic processes the chapter promotes Cyberjaya's back-offices as another paradoxical space within the MSC. The corporate campuses once built with the rationale of plugging Cyberjaya into a 'global space of flows' have produced a range of unintended spatio-temporal consequences. Specifically, the high-tech infrastructures that were to facilitate cutting edge research and development have pulled Cyberjaya into the orbit of the 24/7 offshore service economy and enabled a process of 'colonisation by time' to take place. In Cyberjaya, the SSO operations dance to the tune of networked global time which dictates when deadlines must be met, and which hours the staff must work. As a result, while the global flows of information that filter in and out of Cyberjaya are undeniably global in nature, the labour force which maintains them is rooted in local time-space. These workers experience massive temporal dislocation as they are caught up in complex entanglements of scale acted out through what Massey (1993) terms 'the power geometry of time-space compression'.

To cover multiple time zones Saiful's team of 30 staff are divided into three smaller teams which alternate 8 hour working shifts to provide 24 hour IT support round-the-clock within Shell. Saiful's daily routine consists of working the day shift from 9am to 6pm during core working hours for the Asia-Pacific time zone. However, Saiful will be at his workstation during the night shift if there is a specific issue that needs to be discussed with the North American

time zone and is 'on call' 24 hours a day to deal with any problems that may arise with the software application that his team maintains.[79] On a daily basis he would consult with the Shell headquarter office in The Hague, Netherlands through email, telephone calls, or when needed, teleconferencing. Email and telephone conversations are key mechanisms through which problems are, solved and regular communication with Shell offices worldwide maintained.

> 'My staff are working 24 times 7, I am working 9 to 5 supervising them, so I manage them. Some of them work round-the-clock. Most of the communications we do are mainly outside, since this is where we are orientated to. The project people and management are in the Netherlands, but the users are global. Those people in the Netherlands are the management level people. We use a lot of emails, if not that then teleconferencing I think. This is not too much, only when we talk to the big boss, because it is costly, and we only have a few rooms that can do that. So it is mainly telephone and email.'
>
> (Research Interview: Saiful, Shell)

This illustrates the transnational technologically mediated links between the 'decision city' (in Europe) and the 'service city' (in Malaysia) (Rossi et al. 2007). In this context, ICTs have enabled the near instantaneous dematerialised movement of information from Cyberjaya to the classic 'command and control' centre which integrates and manages the Shell network worldwide. Contrary to 'end of the city' (e.g. Pascal 1987) predictions, telecommunications infrastructure has served to reaffirm and strengthen an urban hierarchy structured around command hubs, intermediary nodes, and peripheral service centres. What has changed is how ICTs have brought about telepresence so that it takes as much time for Saiful to email, or call, head office in The Hague as it does for him to walk to

[79] The exact nature of the application that the team maintained was not disclosed due to confidentiality concerns. Although it was my understanding it was an essential software application

the meeting room in Cyberjaya. As Sassen (2000: 226) argues this creates a 'relation of inter-city proximity operating without shared territory: proximity is deterritorialised' so that Cyberjaya is more orientated to global networks than to its surrounding hinterland.

Saiful participates in a daily briefing at 3.30pm, which is 9.30am European time to discuss the day's work activities and ongoing transnational projects with head office in The Hague. Normally this will be done by conference call with other management level staff within Shell IT. This is a busy time of day for his team when problems are relayed from Europe to Cyberjaya. Here ICTs are not seen to be eradicating locality but rather intensifying linkages between globally disperse places. As Giddens (1990: 17-21) notes, the social organisation of time and space has been abstracted or 'pulled away' from locales in conditions of modernity. Yet this does not necessarily to lead to the loss of place. As Riain (2004: 17) observes 'the globalisation of the information technology (IT) economy is seen not to result in a virtual economy, but in a global industry organised around and through certain key places and regions'. Thus the command and control centre of Shell HQ in the Netherlands is tied into the work practices of Cyberjaya via telecommunications links. Evidence suggests that these informational workplaces are characterised not by the disappearance of time and space as realities of work life, but their increasing importance and intensification. For example, Saiful referred to the 'ramping up' of daily work practices in the afternoon when Europe comes 'online':

> 'If we talk to the Netherlands if it is 3pm here, then there it is 9am. A lot of management people work 9 to 5 so we have a window of 2 to 3 hours before we finish to do what we need in that day. If we can't it would be via emails. So we block the last part of the day to "go global", and talk to these people. This happens nearly everyday. Often we go at night if the project person is in the U.S.. So the U.S. starts at 9pm here, so we need to be around for that if it's urgent. We try our best to get every time zone in one day. We can

> catch three time zones of AP [Asia-Pacific], Europe, and America most days. This happens probably at 10pm during KL time. This means we can align with three continents so it is the busiest time for us. But the team always has to be online 24/7 to deal with problems.'
>
> (Research Interview, Saiful, Shell)

On an average day there will be at least 10 staff from Saiful's team working through the Malaysian night servicing the software application. Working shifts for Shell staff in Cyberjaya operate on a 24/7 round-the-clock basis such as 12 noon to 8pm, 8pm to 4 am, or midnight to 8am. Many staff in Saiful's team start work later in the day in order to cover the European time zone and later in the evening the American time zone which normally comes 'online' at 9pm (East Coast) Malaysian time. Staff in Saiful's team often work irregular working hours and are required to be flexible in terms of work practices.

Saiful regularly logs onto Shell's virtual private network (VPN) from his home in Cyberia later in the evening to check if any potential problems or issues have arisen since North American Shell users came online. Often consultation with American colleagues can be done at home for which Shell provides an allowance to cover communications costs, though there are occasions when he will travel to the Cyberia office to continue working in the evening with his 'night shift' team. Management staff can access Shell's corporate intranet by entering a password and username at the log in page which allows them to work online from home when 'out of hours' communication is deemed necessary. This is another mechanism through which Cyberjaya telecommunications grid becomes privatised whereby premium access is reserved for firewalled corporate intranets for MNCs who demand, and pay for the biggest bandwidth, quickest speeds etc. Moreover, the wired homes of Cyberia merge domestic space and the workaday world with the effect of colonising leisure time when work tasks are mediated through the telecommunications network. Networked infrastructures mobilise

a new matrix of spatio-temporal relations which complicates, overlaps with, the domestic architecture of the home creating an 'ontology of everyday control' (Allon 2004) in which Shell's staff are never out of the loop.

7.2.2. 'Behavioural Decoupling' of Time Zones: Working the Night Shift in Cyberjaya

Joe is a member the Shell I.T. helpdesk providing 24/7 assistance to Shell staff worldwide. This is an essential operation enabling the day-to-day transnational operation of the MNC.

> 'Let's say you have a problem with your machine anywhere in the world, you would give a call or send an email to the I.T. helpdesk, and they will use this software to log all the information from you as a user. All this information is logged in this service centre. So my role is to support this tool, make sure it is running, up and stable, back end and front end. This services the whole of Shell worldwide, and the service is critical. If the helpdesk is not running smoothly, then Shell cannot do what it needs to do.'
>
> (Research Interview: Joe, Shell)

Joe often works the night shift, though his shift patterns rotate from month to month according to three major time zones - North America, Europe, and Asia-Pacific. Rotation occurs so that no workers get stuck with the night time shift, but also so that workers do not take up second jobs. At work, 'cyber-time' writes over and penetrates the local time-spaces in which back-office staff undertake their daily lives. Working the night shift is a process symptomatic of what Laguerre (2004) terms 'behavioural decoupling of time zones' where an individual adjusts daily working practices to follow the hegemonic beat of a time zone elsewhere. Electronic connectivity has made it possible for individuals living in one time zone to service the needs of individuals living in another without awareness of time differences - i.e. team members takes calls from people unaware of which time zone he is in.

These networks produce a sense of 'timeless time' as Castells argues (1996: 469), creating a temporal context where the time on the local clock is of no importance. As the Malaysian working day draws to a close, Europe, then North America comes online and 'timeless time' presents a new set of problems and challenges that need to be attended to by (fatigued) Malaysian staff.

> 'It can be quite tough. We work already for 6 hours, and then we have to align with different time zones. So by this time we are tired, and then other people they are just starting up, like in Europe for example. There is a rush as these users contact us with their problems. But we just have to get used to the pressure and managing the workload.'
>
> (Research Interview: Kazly, Shell)

Call centre staff are at the front line of a telemediated world that has mobilised a shift from temporal orders of 'duration and succession to simultaneity and instantaneity' (Adam 1992: 187). Conflict arises as Joe's personal temporality at work is in disharmony with local temporality meaning, as Negroponte (1995: 89) observes, 'Sunday is not so different from Monday'.

> 'When I got the job in Shell I was pretty happy you know. I think most Malaysians want to get a job with one of the big boys. They have this impression that the salary and benefits will be so much better. But, working shifts can be hard. I have two young kids and I get home from a night shift and just sleep during the day. It messes up family life a bit. I have a different routine to most people, working unsociable hours, you know, like this.'
>
> (Research Interview: Joe, Shell)

The constant movement back and forth from local time to 'virtual' global time fragments everyday relationships between the workplace and the home. Many staff expressed similar problems with family life, and adjusting daily life

patterns according to variable shift work. Joe's wife works according to the cadence of the local time but he follows a different temporal rhythm meaning he is isolated from family life. He spoke of spending more time (work and social) with his colleagues who were plugged into the same temporal rhythms than members of his own family. For instance, when he returned from work in the morning Joe came home to an empty house, slept during the day then left to travel to the office late in the evening for the night shift.

Temporal dislocation led to a high burnout rate amongst Shell staff who experience problems balancing night shifts handling hundreds of calls and offline family life - particularly among women who were under represented in the workforce as a result. Evidence suggests the above can lead to health problems as patterns of eating and sleeping are disrupted for long periods (Taylor and Bain 2005). This is compounded by extensive periods 'trapped' in the air conditioned micro climates of corporate offices exacerbated by temperature and humidity extremes outside. This situation is worsened by long commutes (rising to one and a half hours at peak times) from Kuala Lumpur to Cyberjaya which further adds to the time away for workers who already complained about the negative effects of night shifts on their daily lives.[80]

The perspectives from back-office staff directly challenge Harvey's (1990) 'time-space compression' where telecommunications are bringing temporal orders closer together. Rather, the effect is one of competing temporalities - global times, national times, and local times interacting in one place (Sassen 1999a; Crang 2007). As Lash and Urry (1994) and Virilio (2001) observe, new technologies enable the 'instantaneity of time' whereby movements in physical space no longer become necessary. While this may be true of MNCs whose transnational connections are mediated through the

[80] MDEC recently lobbied a local transport company, Rapid KL, to change their Cyberjaya service to run through the night from Kuala Lumpur to ease public transport concerns for Cyberjaya workers.

'telepresence' of physical offices, time is not necessarily speeding up for the staff of Cyberjaya's back-offices still embedded in the local time-space of Malaysia. These staff experience disembedding or what Giddens (1990: 21) terms the '"lifting out" of social relations from local contexts of interaction and their restructuring across infinite spans of time-space.'

Cyberjaya contains two conflicting temporalities which run parallel one another, but barely intermingle or touch. Firstly, MNCs operate according to the logic of what (Virilio 1995b) calls 'globalised time' whereby everything now happens in the perspective of real-time. Cyberjaya's back-offices operate according to this logic, making decisions, enabling transactions, reporting a fault at the click of a mouse. Their everyday work activities function according to capitalist global time where the clock is ticking and time equals money. However, the reality of global corporate time is that most people live their lives outside it, always on the periphery. Secondly, on the ground the temporal gaps between different worlds seem to be getting bigger, rather than converging. Back-office staff are detached from everyday social spaces, but deeply connected to global flows through telecommunications. Globalisation fosters uneven temporalities; plugged in corporate time is simultaneously juxtaposed to the disconnection experienced by workers on the night shift. For Joe, it dislocates circadian rhythms, and serves to disorientate the human subject caught up in its order. Outside the temporal vortex of the corporate office, the local is left not so much 'strung out in a wire', to coin Cosgrove's (1996) phase, but 'strung out' at the end of a wire where the 'space of flows' comes to an abrupt halt at the entrance to lobby of Shell I.T.'s office.

Working the night shift is also one of the more unseen elements of circadian rhythms in Cyberjaya. When the day shift staff scurry out from their offices at 5pm after a regular working day the night shift workers in various parts of Kuala Lumpur are preparing to start their evening in the service delivery

economy. At the margins of the global economy, working the night shift becomes a form of temporal entrapment constraining the daily practices of those who work it. It also produces new night time geographies akin to what Scott (1990) terms the 'hidden transcript of globalisation'. The 24 hour Indian 'Mamak' restaurant is the only food outlet that stays open round-the-clock in Cyberjaya. During the evening it becomes a hive of activity for workers on 'lunch breaks' in the middle of the Malaysian night. The nascent night time geography challenges assumptions concerning who is *in place* and *out of place*.

For instance, the insertion of female subjects into the nightscape subverts normative understandings about space and bears striking similarities with the experience of female labour in Indian call centres (Patel 2006). In Malaysia the presence of females alone during these hours is equally seen to be improper (especially in the case of Malay-Muslim's) and, despite the provision of transport from home to work, unsafe. Women who work the night shift in back-offices face resistance from disproving family members who deem the job inappropriate, but are also concerned about damaging their own 'status' within the local community. Socio-cultural attitudes explain why a small number of women worked in these back-offices, estimated at less than 30% of the relevant personnel for Shell and IBM. The stigmatisation of female night shift workers serves to reconstitute the global back-office as a uniquely 'un-Malay' space and undermine state attempts to "sell" local conditions and proffer its labour for foreign direct investment.

In sum, as globalisation touches the ground, men and women are being inserted into the urban nightscape to meet the needs of the global economy with diverging consequences. Joe talked about the difficulty of 'coming down' from the night shift and getting used to daily life again within Cyberjaya. As shifts change every few months, body clocks take longer to adjust to new working patterns. Women, however, struggle to reconcile variable shift work

with cultural pressures and the duties of family life. Paradoxically, technologies, rather than liberating the nation from the shackles of colonialism, have merely reaffirmed the country's peripheral position. Workers have been enrolled in neo-colonial relationships of dependency and service, mediated through computer terminals to service transnational information flows. These unintended consequences are disconnected from the dream of a high-tech Malaysian modernity. As the dream of becoming Asia's Silicon Valley fades Cyberjaya has accepted its own fate, with MDEC busy re-branding it, behind the scenes as the world's premier SSO location.

7.2.3. 'Location-Masking' as the Erasure of Geographical Difference

Like Shell, the arrival of IBM (International Business Machines) in Cyberjaya in 2003 was heralded by MDEC and the Malaysian government as another feather in the cap for the MSC. Here was one of Silicon Valley's heavyweights coming to establish an office in Cyberjaya. One of the largest I.T. corporations in the world, IBM is the living definition of a multinational I.T. company. It holds more patents than any other U.S. company, and eight research laboratories worldwide. Despite the fanfare, IBM's Cyberjaya operation is a call centre that deals with customer queries from individuals and company clients[81]. The Centre supports four business functions – teleweb sales and marketing administrative support services, back-office customer support services, integrated technology support services which cover the ASEAN region, and provides a strategic outsourcing helpdesk which supports the Asia-Pacific region. Cyberjaya is one of IBM's nine contact centres worldwide, all but three of these are located in Asia[82]. IBM Cyberjaya deals with pre-sales and after-sales customer enquiries for IBM's Asia-Pacific markets.

[81] In 2006 IBM set up a RM 10 million innovation centre in downtown Kuala Lumpur, and not in Cyberjaya.
[82] The contact centres are located in Australia (Brisbane, Sydney, Ballarat), China (Dalian, Shenzen), Japan (Okinawa), Korea (Seoul), Malaysia (Cyberjaya, Philippines (Manila).

Arief (team manager) and Auyu are two of some twenty Indonesia staff working in IBM Cyberjaya providing 24/7 pre-sales and after-sales support for IBM products and services helpdesk for Indonesian clients. As well as working round-the-clock IBM contact centres staff are required to 'mask' their location to incoming callers. Staff who were interviewed speculated that this was done in order to reduce the likelihood of racism from customers who may only want to deal with a representative from, or within, their own country. Fears of racism are not unfounded since some workers who were interviewed within IBM did cite problems that occurred when callers established that the call centre was in an offshore location. Some callers from Indonesia for example couldn't understand why the centre was relocated to Malaysia, and perceived this to be symptomatic of the trend of local jobs going abroad. Often this 'emotional labour' (Leidner 1999) adds to the pressure of the working experience as staff are trained to 'follow the script'. Location-masking is also done to protect companies who may encounter customer dissatisfaction if it is revealed they have 'offshored' to low cost locations. In Indian call centres which service North America or UK markets it is common for extensive location masking to occur. Staff often take on American pseudonyms, accents and even go so far as inventing new 'localised' identities in order to mask the location where they are receiving the call (Mirchandani 2004). IBM Cyberjaya does not go to such extreme measures. The location masking occurs through two main strategies.

Firstly, IBM users are given a local customer support number for pre- and after-sales support with every IBM purchase. Customers will call what appears to be a local number charged at a local rate. However, once the call is made the customer is connected to the IBM contact centre in Cyberjaya, Malaysia. In a technological sleight of hand, when the calls come into the helpdesk they are filtered by country code and channelled to the team responsible for that country. For example, if an individual or business from Indonesia calls the local contact number for the IBM support helpdesk it will

be routed to the regional support centre in Cyberjaya and the call will be dealt with by a member of Arief's team.

IBM employs mostly expatriate labour with specific language skills to service individual markets within Asia-Pacific. The high presence of expatriate labour is another example of a transnational flow in Cyberjaya. Often these are educated bilingual staff paid more than equivalent local staff (Arief gets paid six times more than an equivalent job in Indonesia). The helpdesk can provide language capabilities in English, Bahasa Indonesian, Bahasa Malaysian, Cantonese, Hindi, Japanese, Kannada, Korean, Mandarin, Tagalog, Tamil, Telugu, Urdu and Vietnamese to service the entire Asia-Pacific region.

> 'In the contact centre we have many different nationalities. Japan, Indonesia, Thailand, Philippines. All of these people work here, so we can see on the display of our system where the call is coming in from, so then the relevant person will deal with it. For me, I can speak with the person calling from Indonesia in Bahasa Indonesia. These are calls with 62 dialling code if I am not mistaken. Or we can speak English if they prefer. We can ask them what happened with their machine or product.'
>
> (Research Interview: Arief, IBM Malaysia)

IBM staff in the pre-sales support section provide technical, configuration information that individuals require about IBM products before purchase section. Staff work according to the time zone of the specific market they are servicing since customers normally call during normal working hours (e.g. 8am to 6pm)

> 'The 24 hour time shifts is used to cover the different time zones. For me in pre-sales, I work for Indonesia market, so there is a time difference of maybe one hours, so I can work a normal shift, like 10 am to 6pm. It works like this. The Japanese agent he has to work when Japan goes online. For

after-sales support though it must be available 24 hours online. This is what we do. It is an essential operation so it runs 24 by 7.'

(Research Interview: Arief, IBM)

This contrasts with Auyu in the after-sales support team that provides essential technical support and hardware support on IBM products. His Indonesian team works alternating shifts to cover a 24 hour work cycle. Like Joe in Shell IT, he switches between night (6pm to 6 am), and day shifts (10am to 7 pm) every other week. This meets the need of companies who have information management systems serving multiple markets running round-the-clock every day of the year. These technologies never go offline, and when there is a glitch, Auyu and the help desk are the first port of call for fielding and responding to fault reports from IBM users in Asia-Pacific. In this instance ICTs allow for 24/7 synchronised connectivity where any IBM user in the region can connect to the Cyberjaya support team simultaneously and instantly.

'I.T. companies never sleep. The server is live 24 hours, so if the system goes down, we must be on standby, this is non-negotiable. If there is a problem, like the server goes down in a company, their I.T. officer will call us, and we can try and fix it. If we can't assist on the phone the engineer will go out. He must be available 24 hours, maybe he is asleep, but we call him, and tell him to go to the company which has the problem. So it is simple. It must be there 24/7.'

(Research Interview: Auyu, IBM)

Secondly, when Arief and Auyu receive a call from Indonesia they introduce the call through a scripted response of "Welcome to the IBM Asia-Pacific contact centre". Recognising a "local accent" at then end of a local number, callers assume that they are speaking with an IBM representative in their own country. Arief told me there were occasions when callers conversed about local topics (e.g. television, the weather, current events) with which he

was unfamiliar. IBM doesn't have a policy of keeping its staffers abreast of current affairs in local countries. If asked the staff will inform customers that the call is being received in the IBM Asia-Pacific contact centre in Cyberjaya, Malaysia. There is a more relaxed mentality here because IBM Cyberjaya is servicing mainly ASEAN countries and not dealing direct with British or North American customers who may be more sensitised to dealing with 'foreign call centres'[83]. However, staff are still trained how to avoid answering questions about location and told not to give away information about themselves. On some occasions Arief had been greeted with callers who insisted on speaking with someone in their own country. This is rare, and in general the local masking strategies employed by IBM are successful in creating a homogenous corporate space in which locality is 'written out', or seen as undesirable.

Both examples from Cyberjaya's SSO industries illuminate how the globalisation of work practices is experienced from below by staff caught up in 'slippery space' of transnational flows in the global back-office. This process is characterised by hybridity: the mixing of real-time/virtual time; physical presence and telepresence; flexibility of connecting anytime from anywhere; and the ubiquity of going everywhere virtually but remaining in one place. These workplaces create a paradoxical space and produce a dislocating effect on the lives of workers in non-technologically mediated offline spaces as they negotiate the temporal orders of the global and the local at work.

7.3. From the Local to the Global (and back again): Negotiating Spaces of Identity

In negotiating these global information flows through transnational work practices staff construct new hybridised identities; partly deterritorialised to the global scale, but also simultaneously bounded, and fixed, at the local

[83] In response to customer dissatisfaction several UK companies have now switched back to local call centres.

level. Back-offices function as 'an interstitial zone of displacement and deterritorialisation that shapes the identity of the hybridised subject' (Gupta and Ferguson 1992: 18). These hybrid identities are not overtly 'de-Malaysianised' to the degree found in Indian call centres where local identities are actively erased by companies through processes of accent training and 'cultural neutralisation' (Mirchandani 2004; Shome 2006). Rather the chapter argues that through globalised work practices with MNCs local workers reconstitute their own identities as globally orientated 'knowledge workers'. Many staff, when interviewed differentiated Cyberjaya as a 'global' space versus the surrounding national territory which they saw as 'local'. Furthermore, this putative sense of globality was promoted by MNCs who claimed once staff entered their offices they were "leaving Malaysia behind" and connecting to a globalised economic space, part of the offshore service economy. The emergence of Cyberjaya as a new 'global space' relates to several factors discussed in earlier chapters concerning the urban design and planning of the city, the large presence of MNCs and foreign staff, prolonged exposure to global time and English as the dominant language of business. As a result, individuals who work in Cyberjaya saw themselves as part of a unique global community.

Importantly, the physical appearance of the secured corporate citadels of Shell and IBM in Cyberjaya were self-consciously designed to symbolise 'global' corporate capitalism. These boxy office buildings - think futuristic glass, steel designs bearing the brazen corporate logos of MNCs - are emblematic of the foreign investment to which Malaysia wants to connect (Figure 28). Both inside and outside a new global aesthetic is created through post-modern architectural styles, interior design, and furniture. The contrast between 'home' (Malaysia) and 'away' (the international office) is exemplified through the architectural and environmental features of the corporate campuses of MNCs. They function as time-space bubbles where staff are virtually transported into a new deterritorialised 'global' in closer

relational proximity to offices outside Malaysia than to Cyberjaya itself. Once inside the glossy glass lobbies of these MNC staff are transported into a global (read Western) space of corporate capitalism with its open workstations, IKEA furnishings, and an 'international ambience' of coffee bars etc. As Shome (2006) argues about Indian call centres, these tensions subvert traditions notions of diaspora because the 'away' to which these workers travel is not another nation but a new global space which the technology parks signify.

> 'The spatial landscapes of these technology parks – where call centres are often housed – are deliberately designed to assert the physicality of a new modernity and cosmopolitanism (read: Americanisation) brought about by global technology, and to distinguish that modernity from the rest of the city (and the nation).'
>
> (Shome 2006: 116)

Figure 28: DHL Global Data Centre in Cyberjaya (Source: Author's Photograph)

However, just minutes away from these back-offices, the marginalised kampung dwellings of nearby areas such as Dengkill are ramshackle at best. Cyberjaya's overlooked hinterlands are not connected to the high speed information super highway that facilitates the offshore service economy. As time speeds up and intensifies in the corporate offices for the kampung residents living cheek by jowl with Cyberjaya, local time is cut off, and everyday life is slowed down. These villages are akin to what Boyer (1996) termed 'lag-time places' characterised as temporal breaks in the imaginary matrix of the cybercity. When driving through these villages it was visible how untouched, or disavowed, they have been by both the MSC project and the so called information technology 'revolution' with all its talk of hypermobility. They serve to exemplify that Malaysia's 'information society' is, at best, a partial condition and, at worst, a work of fiction dreamed up by

the state for its own political ends. This undermines the MSC's claims to be a national project and reinforces earlier discussion that it has manifested in a 'strategic' geography of globally orientated splintered urban spaces.

While the word outside of the (neo-colonial) corporate enclave, and Cyberjaya, remains disconnected the architecture and high-tech infrastructures of the Shell and IBM offices are emblematic of a new powered-up modernity. Once individuals enter them they are transported to a new real and imaginary space of globalised capitalism and reconstitute their identities as global back-office staff. Arief leaves his condo in Cyberia, takes a bus ride to the IBM office just 10 minutes away, and enters through the corporate entrance of IBM Cyberjaya. Once inside he proceeds to a large hall lined with computer screens. He takes his normal seat, puts on his headset and plugs into the global offshore service economy. Within seconds his workstation is flashing to alert him to an incoming call from Indonesia. He greets the caller with his scripted response of "Welcome to the IBM Asia-Pacific service delivery centre, Arief speaking, how can I help you?"

It is here the spatio-temporal circadian rhythms of the local collide with global 24/7, 'anytime/anywhere', 'informationalised' time-space. Identities become reformed through a transnational regime of telematics traversing spatialities of the local and global. In the global back-offices of Cyberjaya workers such as Arief, and Joe experience Malaysia by day and Europe or North America by night. While at work they are physically located in a specific time and place which is constantly transgressed through their, always virtual, daily connections to different places strung out across multiple time zones. There are no physical/material connections with these global operations flows that are enacted through virtual electronic migrations circulating information across borders. For example, while Saiful has built up close working relationships with management in Shell headquarters in The Hague yet he has not once been there, nor will he ever go. Surrounded by the physical

topography of Malaysia he projects his identity as 'global knowledge worker' onto a world elsewhere through virtual connections. He is 'disembodied labour' (Bauman 2000) *par excellence* allowing the smooth extra-territorial operation of Shell worldwide. He can do everything that needs to be done to run his team through telecommunications. If there is a problem then they can call, email, or teleconference if needed.

Bearing this critique in mind, working in a global back-office in Cyberjaya is not akin to a 'dark satanic mill' (Kinnie et al. 2000) or an 'electronic panoptican' (Taylor and Bain 1999) for the post-industrial age. Fieldwork evidence contradicts the dystopian predictions about workplace coercion, 'information age' Taylorism or omnipotent surveillance from managers. Contrary to the popular visions of oppressed staff in developing world locations working under strict conditions in back-offices I found no evidence of this in Cyberjaya.[84] In interview, when asked about their working practices and environments all were complimentary about their companies. The only dissenting voices were about working the night shift and the impacts of variable shift work on social and family life. However, all workers accepted this as part of their job requirement. This was compensated by the fact staff were paid a generous wage, and received benefits for working in one of these companies. Arief received an allowance for his accommodation in Cyberia, and staff had their home internet connections paid for by their companies[85]. In Malaysia working for a multinational is a source of pride but also simultaneously a source of stress and temporal dislocation when working the night shift. However, it offers the promise of a respectable, white-collar job with good financial rewards compared to other service sector jobs. In the marketplace, competition between local graduates for such jobs with big companies is intense and if successful application is viewed as a prestigious achievement. Although these jobs represent a step up from the

[84] For example, Ng and Mitter (2005) have argued that female employment in call centres in Malaysia has served to partially liberate, and empower, women who have learnt new skills.
[85] This was because management level staff needed access to the corporate intranet for home.

factory work of the manufacturing operations found in FTZs, the workforce remains passive. Cyberjaya has failed to foster an R&D culture to match Mahathir's intended vision of 'intelligent' work practices

This new generation asserts Malaysia's claims to a global market in two ways. Firstly, these transnational work practices are not necessarily part of a new dark (neoliberal) world order, but instead become important in globally re-orientating the nation towards the international economy and repositioning Cyberjaya in a new urban hierarchy of offshore service centres. Cyberjaya has created a hub of sorts for the SSO industry, and partially, at least, has fulfilled Mahathir's goal of creating a (controlled) multicultural space for integrating Malaysia to the global information economy. However, the types of flows and processes to which the MSC has connected are not the planned high value-added research and development. Despite this, the presence of skilled, English speaking labour is a key strategic infrastructure for channelling multinational capital into Malaysia in its bid to become a dominant global outsourcing hub. Secondly, Saiful and his colleagues, are not Malaysia's 'far away others' who have simply 'gone global' in the abandonment of the nation. It is exposure to the MNC, not the smart home (next section) that has allowed Cyberjaya's workforce to prepare themselves for the global economy. As a worker in Shell Cyberjaya commented in interview, the MSC has created a new generation of more globally competitive Malaysian workers.

> 'I think you look at the broader perspective, and all of us who work here and are Malaysian, we wouldn't have had this opportunity otherwise, so it must be a good thing I think. It is a good thing, we are now exposed to this, the MNCs. So from that perspective we have gained a lot of skills, we have built networks, we are now competitive, I can now take away my set of skills that I learned from BMW and go to anywhere or some other place, and they say oh this guy is from BMW so he know what he is doing, so that's true. Without the MSC we would not have had this opportunity otherwise.'

(Research Interview: Venky, BMW)

Exposure to MNCs, Westernised work practices and management techniques were seen by staff as positive features of working in Cyberjaya. However, the process of becoming globally orientated citizens was often bifurcated along ethnic lines vis-à-vis the racialised politics of Malaysian high-tech development. Empirical evidence indicates Indian and Chinese Malaysian staff comprised a large component of Cyberjaya's I.T. community. The perceived lack of participation of the Malays in the I.T. economy, has led to calls for NEP positive discrimination policies to be implemented in Cyberjaya. These have not been accorded to MSC spaces, in keeping with the original provisions in the 'Bill of Guarantees'. Outside of the MSC, pro-Bumiputera policies are hindering the global competitiveness of Malays who have developed a 'mentality of dependency' (Mahathir 1970). Originating in the 1970s, the NEP has only served to handicap Malays in the global labour marketplace (Chapter 6). As the following quote from Malaysian-Indian I.T. manager in BMW demonstrates, the pro-Malay education and labour policies have held back the global competitiveness of this ethnic group.

> 'You need to bring in the proper, really smart people, people on the cutting edge of I.T. you know. You look at the standards of our universities here and they are poor. The local universities. This is a very deep problem, our education system is useless. We have people who are not qualified getting into public universities by virtue of the colour of their skin, they get degrees, what have they done? I say this acutely as a non-Malay, and I had to work 6 times harder to get where I am. That is okay, because it just made us more competitive, and I am using the rhetoric of "us" here, but that is the reality. In Malaysia you have two sets of people. One set of people who are very highly qualified, who can make it anywhere in the world by virtue of the fact they have to work harder to get where they want to be. Then you have another set of people who just ease through.'
>
> (Research Interview: Vijay, BMW Malaysia)

Racial politics permeates the MSC, and Cyberjaya, just as it does in other discursive and material spaces elsewhere in Malaysia. Pro Bumiputera policies in education, the economy, and government institutions have forced Malaysia's other minorities to work harder and push themselves further against the mechanics of discrimination to reach the top. Several back-office workers interviewed during the study were returning Chinese and Indian Malaysians who had abandoned the Malaysian higher education system to be educated in foreign universities in the UK, USA, and Australia. Consequently, in the companies of Shell, IBM amongst others it is the Indians and Chinese who have risen to the top fastest, and prepared themselves as high quality labour for the global economy. The 'view from below' suggests it is these groups, above others, that have the potential to become Malaysia's next generation of truly 'intelligent citizens' having already made the step from the local to the global and back again.

7.4. Welcome to Cyberia Smart Homes!

Figure 29: Entrance Sign to Cyberia Smart Homes, Cyberjaya. (Source: Author's Photograph)

The second half of the chapter addresses a different mechanism for creating a new generation of globally competitive 'intelligent citizens'. Together with flagship applications, smart schools, city command centres, (CCC) *smart homes* were conceived as a spatial milieu for creating globalised live/work spaces in which all Malaysians could invoke technologically interactive lifestyles. The MSC planning guidelines set out by the JPBM required every home in Cyberjaya to be a 'smart home'. Although the exact specifications on what constituted a smart home were never clarified beyond a requirement that homes should be 'broadband ready'. Elsewhere the smart home has been defined as:

> 'A residence equipped with information technology which anticipates and responds to the needs of the occupants, working to promote their comfort, convenience, security, and entertainment through the management of technology within the home and connections to the world beyond.'
>
> (Aldrich 2003: 17)

Historically smart homes have been linked to utopian experiments in futuristic forms of living. As Spigel (2001) observes, they have a long sinuous history dating back to the 'homes of tomorrow' (Horrigan 1986; Haddow 1999) in science fiction futurology and Edward Bellamy's (1888) *Looking Backward* to Le Corbusier's 'machines for living'. Recently, corporations such as Panasonic, Microsoft have presented exhibits of smart homes to promote their corporate vision alongside promises that homes will lead to technological liberation and economic power. For example, Bill Gates, a government advisor as part of the IAP (Chapter 4), described his own digitally powered Seattle smart home (or mansion) in his bestseller *The Road Ahead* (1995) with the obvious intention to persuade the reader to adopt his vision of the future. This appears successful in Malaysia where the state co-opted smart homes as a planning exemplar - just as it did with the garden city and technopole 'models' - into the urban development of Cyberjaya to produce a set of imagined predetermined socio-spatial effects. Smart homes ushered in a wave of utopian predictions promising residents an eco-friendly, greener environment, heightened security systems, lifestyle enhancement and greater electronic mobility.

When launched in Malaysia during the late 1990s the homes were symbolic of national investment in the 'information society' which had I.T. as its zeitgeist. In Cyberjaya the experimental bucolic urbanism of technologically saturated smart homes in a garden city setting was inextricably linked to notions of national progress and modernity. Consequently, the smart home became the primordial site for the (re)construction of a new form of

'intelligent' Malaysian citizenship by promoting an alliance between ICTs, domestic life, and everyday practices.

The first smart homes were constructed in Putrajaya where government ministers were encouraged to lead by example and embrace a new technological era by becoming the first generation of smart home residents (*The Star*, 31.07.2007). The emergence of the smart home concept articulated perfectly with Mahathir's (1997a) claim Cyberjaya would be 'an attempt at creating an environment not just for testing technologies, but a new way of life itself'. The famous video link up by Mahathir to the Malaysian nation was symbolic of a 'new era' which saw ICTs entering Malaysian domestic life, with potentially revolutionary effects. Promoted at a time when most Malaysians had not yet logged onto the internet, the smart home was the manifestation of Mahathir's high-tech push at the household scale where citizens could connect with the flagship applications symbolic of 'information age' Malaysia.

By focusing on the Cyberia smart home complex the section examines another paradoxical space in the MSC following two analytical strands. Firstly, despite the launch of smart homes as a site in which all Malaysians were cordially invited to participate, in reality, smart living was achievable only for the privileged populations. Public claims linking smart homes to social and cultural development were undermined by developer's fixation on a target population of foreign knowledge workers. Secondly, rather than domesticating new forms of 'intelligent living', the homes have mobilised unintended textures of ICT usage and insurgent forms of digital citizenship. Both examples reveal further discursive disjunctures between the ideology of high-tech modernity and its 'everyday' geographies.

Figure 30: Aerial View of Cyberia Smart Home Complex (Source: Google Earth)

Developed by MK Land[86] , Cyberia was launched in 2000 as the 'flagship' smart home development in Cyberjaya. According to its marketing tag line Cyberia smart homes create a 'space age environment for ultra modern living' (Advert, MK Land, 2006) saturated with high-technology. The development is located on a 60 acre freehold site and currently has a residential population numbering approximately 7,000 residents. Cyberia is a gated community consisting of a mix of high-rise condominiums and low-rise town villa residences with communal facilities which include a children's playground, tennis courts, swimming pools, gym and basketball court. According to the management, its 'USP' (Unique Selling Point) is its claim to have created Malaysia's first 'wired' community. Each unit shares a

[86] At the time of writing listed as the biggest developer on the Malaysian stock exchange.

standard list of 'intelligent features': a broadband connection, a home automation system, access to *Cyberia Online* community Portal and 24 hour security monitoring. Residents can upgrade to other features like wireless broadband internet access in communal areas, Voice Over Internet Protocol (VOIP) capabilities, connection to the CCC, remote operation of the home automation system, and the video-conferencing capability. In the years since its launch several of these features have gone 'offline' including the community portal since July 2004[87] and many of the CCC services have been halted due to a lack of funding and expertise. Development phases A and B were 100% sold with phase C ('Cyberia Crescent') currently nearing completion.

7.4.1. "Going Global": Creating an Enclave Space for the International Community

Cyberia was designed for, and marketed to, a high earning community of 'managerial-technocratic-political elites' (Castells, 1996: 401) and any aspiring middle-class Malaysians who could afford the living costs of 'intelligent living'. This signals a disjuncture in the utopian rhetoric of Cyberjaya as national 'test bed' versus the political economic reality of the city as a 'world-class' spatial milieu for the well-heeled. This paradox is reflected in the high purchase costs of an average home, from RM 250,000 for a condominium to RM 360,000 to purchase a Town Villa.[88] In addition, the monthly rental prices of between RM 1,000 and RM 1,5000 are more than double those found in comparable properties in the surrounding townships of Puchong and Kajang.

[87] The URL for the online community portal is www.cyberia.com.my and has been offline for several years. According to Cyberia's management the original portal contained bulletin boards for community events, interactive services with Cyberia management and a fault reporting systems for Cyberia homes.

[88] By way of conversion the average price for a Cyberia smart townhouse is RM 360,000 with equates to £51,000. In terms of local property market these are high prices.

In interview, MK Land described how they initially marketed the Cyberia development to an exclusive clientele of foreign 'knowledge workers' from MSC companies. The promotional campaign for Cyberia as a locale for a 'luxurious living experience for those with a fast paced lifestyle' (Advert, MK Land, 2006) tied in with original development plans that Cyberjaya would emulate Silicon Valley and attract the brightest I.T. brains on the planet to live and work in the city. For example, the planning guidelines identified the target population as 'industrial I.T. innovators and knowledge workers' to comprise a 'global community living at the leading edge of the information society' (Malaysia 2000: A1-2). This strategy was self-consciously designed to differentiate the physicality of Cyberjaya from previous manufacturing spaces (e.g. EPZs) which had characterised Malaysian global economic engagement prior to the MSC. In turn, the clustering of Cyberia, MMU and MSC status companies was optimistically framed as leading to the creation of a 'smart suburb' where expatriate knowledge workers would intermingle with Malaysia's would-be 'intelligent citizens'. Capitalising on this, promotional materials for Cyberia imagined a locale where I.T. professionals, academics and students would live together to create an innovative neighbourhood milieu (think Menlo Park or Mountain View in Silicon Valley).

> 'Cyberia, the only residential development that is directly next to Multimedia University. A unique address. Undoubtedly a prime property in the future. Where the university lecturers, visiting professors staff and students can walk or bicycle easily to the campus next door. Where the staff of MSC status companies can congregate. Just as Stanford University is the heart of Silicon Valley, Cyberia will become the social hub for Cyberjaya with MMU close by.'
>
> (Cyberia promotional leaflet, MK Land 1998)

Cyberia was promoted as the condominium of choice for the high earning expatriate community of Cyberjaya. Developers furiously promoted the concept of the 'eco-friendly high-tech city' (*The Star*, 02.06.1997) to

overseas property investors. The developer, MK Land, spoke of emulating exclusive expatriate urban enclaves like Bangsar, or Mount Kiara in Kuala Lumpur which house international staff working in the city. However, rather than constructing an open residential development, conducive to local engagement and intermingling, developers sought to provide a suitable living environment to meet the international standards of MNCs and their staff. In these terms, Cyberia was designed as a gated community, or what Caldeira (1999) terms a 'fortified enclave' with self-contained amenities and non-place specific, 'international style' architecture which serve to give residents the sensation they can set up home anywhere in the world (Figure 31). Furthermore, developers played on a growing anti-urban fear about crime and security in the Kuala Lumpur metropolitan area to justify their gating strategy and actively encouraged the secessionary movement of middle-class groups out of the city into Cyberia (Chapter 5).

Figure 31: Cyberia Townhouse Condominiums (Source: Author's Photograph)

Like the offices of MNCs in the previous section, neoliberal capitalism has impacted upon the urban transformation and physical design of the built environment of Cyberjaya. Both the corporate enclave and the gated community are globalised spaces that seek to elude or partly erase locality in different ways. In Cyberia, developers sought to provide expatriates with a familiar space of produced global urban culture - e.g. luxury condominium living in a gated community. This appealed to a transnational community that shares similar behaviour regarding housing, dress, consumption patterns and cultural orientation in general. Allied to the physical form, the provision of globally recognised brands and amenities is demanded by residents where the attractiveness of a potential addresses is measured by the presence of Starbucks. As one worker from a Cyberjaya company commented to me: 'what is the use of all these infrastructures in Cyberjaya if there isn't a place I can go and get a latte every morning before work?'

These real estate developments are deliberately planned, globally orientated suburban spaces, what King (2004) has called 'globurbs', where transnational communities aspire to replicate a recognisable urban structure, housing style and architectural layout. This is the latest manifestation of urbanisation on a global scale, a process that King (1995) first identified with his work on the historical spread and diffusion of the colonial bungalow suburb.

Globurbs articulate with Easterling's (2005) typology of 'spatial products' of technology parks, gated enclaves, leisure resorts that symbolise the emergence of a global urban culture. The globurb is equally packaged, as artificial, striving to elude locality as 'spatial products' and exemplifies the global diffusion of specific modes of living produced by the globalised economy. For example, King (2004) details the growth of expatriate suburbs containing 'European style' villas in Beijing which house the foreign staff of companies such as Siemens, Nokia, BP, IKEA etc alongside China's nouveau riché. These globalised live/work spaces are akin to what Smith (2001) labels 'translocalities' in the sense that they generate translocal discursive, material and spatial practices. This takes numerous forms including the global diffusion of planning exemplars, but also incorporates other transnational flows such as the promotion of Cyberia to overseas property investors in Hong Kong and Singapore, and, everyday work practices in the offshore service economy that serve to enmesh geographies of the local and global in Cyberjaya.[89]

[89] King (2004) cites examples of Washington suburbs close to the region's high-tech industries which have become home to large concentrations of ethnic American-Indian populations. Silicon Valley is one such other example with its high concentration of Japanese, Taiwanese, Chinese, and Indian diasporic communities (Saxenian 2006).

Figure 32: Cyberia Sales Brochure (Source: Paramoden)

The promotional rhetoric promoting Cyberia directly appealed to the rootless nature of the imagined target audience (Figure 32) when the project was launched in 1996. These were imagined to be members of Sklair's (2000) 'transnational capitalist class' of individuals who were seen to be increasingly rootless in terms of mobility and residential patterns. Promotional adverts depict ICTs as central to the lives of smart home residents who were imagined to be 'always on the move'. For example, by Phase 3 (2010-2020)

of the MSC's development, staff in Cyberjaya would be deeply connected to transnational R&D communities found in 'intelligent' cities across the word (e.g. Silicon Valley, Taiwan, India, China). However, as examined in the previous chapter Cyberjaya developed as a 'slippery' space as it struggled to attract the foreign knowledge workers and research and development divisions of MNCs that were to spearhead the creation of 'Silicon Valley' Asia. Consequently, a mass migration of transnational technocratic elites into Cyberjaya never materialised and was replaced by three others type of transnational migration flow.

Firstly, as Cyberjaya has struggled to live up to its own hype, interest from Malaysian property investors in Cyberia has diminished. As a result, the development has been promoted to potential property investors overseas, notably in Singapore and Hong Kong. The utopian branding mobilised by MK Land to promote Cyberia functions as scalar camouflage serving to mask the slow down in Cyberjaya's development in the aftermath of the Asian financial crisis, the burst of the dot.com bubble and the retirement of Dr. Mahathir from office. Large plots of land remain undeveloped, and MDEC has struggled to attract new companies to relocate to Cyberjaya. This had a knock-on effect in Cyberia, while Phases A and B sold well, the latest phase has been poorly received. The concept of an 'intelligent city' replete with smart homes, e-lifestyles and ubiquitous computing is a promotional tool still used for creating interest overseas where potential investors are less attuned to local conditions. Foreign interest has been attracted by the promise of high rental returns of 7 to 8% per year due to the high demand from the student market in Cyberjaya.

> 'I think they should do it there [overseas]. Because we, as Malaysians, we *know* what's happening. I mean we are sensitive to the experience. We know that in 10 years nothing is happening, selling the same old concepts,

so we sell the concept to Hong Kong or Singapore then they will go "ah something new", or think this is something interesting.'

(Research Interview: Director, C2Media *emphasis in original*)

'Most of the time it is targeted to investors like expat magazine, airline magazine, my second home magazine, Singapore magazines. Very specialist. The market for this kind of thing is very niche and small. So people with platinum cards are either investors or have extra money, and they don't know what to do with the money. You know, so. We go for this type of magazine. They like our brand, the I.T., that kind of thing. I don't think it would work with the local investors.'

(Research Interview: Marketing Manager, Cyberia)

Secondly, Cyberia is home to a proportion of international staff from the SSO industry. This includes the country managers of MNCs in Cyberjaya who are sourced from head office typically on 2 to 4 year contracts to manage offshore back-office operations. Although the majority of individuals interviewed still chose live in Kuala Lumpur, rather than in Cyberia, to be closer urban amenities. Their occupational lifestyles are in contrast to the back-office workers of the previous section who typically share apartments to cut down on living costs and are characterised by their electronic mobility versus physical stasis, and irregular working hours following the temporal rhythms of a world elsewhere. Thirdly, international students of Cyberjaya's private universities are part of an educational elite sent from poorer countries from the region (e.g. Bangladesh, Indonesia) - or increasingly Africa - to be educated overseas. These students come to study at two of Malaysia's leading universities in their fields; the Limkokwing University College for Creative Technology and the Multimedia University.

Despite claims that Cyberjaya would create an egalitarian 'knowledge based' community, Cyberia has become a domain for the privileged few. The latter are differentiated from the surrounding community based on their ability to

pay rather than to innovate. Cyberia is another 'premium networked space' (Graham 2000), like the offices of MNCs in Cyberjaya, splintering away from their proximate urban landscapes as they simultaneously connect with international circuits of economic, social and cultural exchange. It is a space which has forgotten about its hinterland. The surrounding spaces are 'superfluous landscapes' (Nielsen 2002) that have been left behind, or abandoned by global capitalism. The example of E-Village from the last chapter is the most obvious example of an abandoned utopia. We can also include the neglected spaces of surrounding kampungs which are set outside the MSC vision by virtue of their 'non-intelligence'.

7.4.2. Mobile Privatisation in the Networked World of Cyberia?

The section illuminates the imagined effects technologies of the smart homes were planned to have on its target audience of: (a) a transnational technocratic elite; (b) would-be Malaysian 'intelligent' citizens. These socio-spatial effects were framed in a technological manner by the state to create 'intelligent' live/work practices in Cyberjaya.

Firstly, the technologies of the smart home were planned as a mechanism for facilitating electronic mobility and global connectivity for a transnational technocratic elite. As examined in Chapter 4, these individuals were enthusiastically targeted by the state through a number of discursive strategies. Promotional pictures for Cyberia depict Western expat executives sitting in their ultra modern Cyberia living spaces punching away on laptops, presumably plugging into Castells' global 'space of flows'. These transnational elites only a click away from checking mail or logging in via their PDA at all times. In this context, the private individual sets the terms of engagement with the (global) external networked world while simultaneously maintaining secure (local) boundaries from the comfort of the smart home. The perceived constraining, disconnected locality of Cyberjaya was to be

overcome by ICTs thus providing these individuals with a global reach from a local setting bringing them closer to the 'anytime/anywhere' dream of digitised capitalism. The distance from Kuala Lumpur, or the world, can be overcome by teleworking to collapse the traditional boundaries between the office and the home, work and rest. With internet connectivity at home, workers would seamlessly connect to the privatised corporate intranets of the office to keep in touch with latest transnational R&D projects. Smart homes were synonymous with the ultimate goal of ubiquitous computing leading to technological liberation from place and geography so that residents do not have to leave the house at all.

In the above terms, Cyberia was prepared as a capsule environment (de Cauter 2004) where human, machine and technology create a networked space electronically linked to other parts of the city (e.g. the office, the city command centre, Cyberia management). As Morley (2005: 438) notes, smart homes create a place where 'where comfort, safety and stability can happily coexist with the possibility of an instantaneous digitalised "flight" to elsewhere or the instantaneous importation of desired elements of "elsewhere" into the home'. This reworks Williams (1975) 'mobile privatisation' whereby homes in Cyberia substitute geographical mobility through communications technologies but privatisation through domestic architecture, and the creation of a secured community. In this sense smart forms of domesticity are predicated upon a retreat to a cocooned wired locale that allow us to go anywhere from nowhere.

In Cyberia the smart home functions as both a physical and virtual capsule. Firstly, it is part of a segregated urban zone; a gated community where access is restricted, and security guards parole the perimeter in order to keep the location secure. This is symptomatic of 'enclave spaces' (Sidaway 2007) in the developing world which house expatriate communities in secured, often militarised residential compounds (e.g. expats in mineral

economies in Africa, or the Oil industry in the Gulf region). Secondly, the smart home functions as a virtual capsule whereby the outside world is mediated primarily through the computer screen. City development plans imagined that residents would interact with the Cyberia community, pay their bills, and alert management of a problem remotely. Through the screen there is essentially very little that cannot be done. Digital connectivity is seen to replace the need for physical proximity to the city in the planning of Cyberia smart homes. This is the end state utopia employed by futurologists like Negroponte (1995) to mobilise anti-urban, end of the city scenarios discussed in Chapters 5 and 6.

Technologies are imagined to create new kinds of 'e-lifestyles' that connect people to each other, to buildings, and the network with the technologies of the smart home. By investing in 'high-ceiling, high-tech, high-end' (Cyberia Advertisement, MK Land 2006) living, residents can fast-track themselves towards ultra modern living. The interactive world of the smart home is rephrased as a 'space-age living environment' in which residents can live a stress free simplified existence through 'intelligent' ICT usage focused on 'new economy' practices. As the following Cyberia marketing slogans show, being plugged in, wired to the network is an essential component of everyday life - though as the remainder of the chapter suggests, this 'gee whiz' futurism outlined below is never realised in practice.

> 'There is no better place to immerse yourself in everything high-tech.'
>
> (Advertisement, MK Land 2004)

> 'Imagine going about your daily life from within your home or outside. Whether it's doing your banking transactions or communicating with business associates, you now have the freedom to move about as you please. And still stay connected.'
>
> (Advertisement, MK Land 2006)

Secondly, Cyberia was constructed as both an ideological and material space for producing 'intelligent' citizenship where would-be local residents could also 'be part of the wired world' (Advertisement, MK Land 1999). The project was billed as 'more than a property development' (Research Interview: Cyberia Marketing Manager) self-consciously promoting itself as constitutive of the MSC's broader socio-cultural goals of national development. The homes were the symbolic front line for the transition towards becoming a developed, technologically savvy nation. Advertising slogans aimed at domestic investors strike a nationalistic cord with buyers where the purchase of smart home was marketed as an investment in national social development; thereby preparing the self and the family for an imminent 'information society'. This links back to the discursive architectures promoted by Mahathir to sell the project as an economic and social imperative at the national scale to which 'there is no alternative' (Chapter 4).

Cyberia's advertising constructed an aspiration landscape upon which Malaysians could assert their new national self-confidence. Although smart homes have traditionally been a toy for the wealthy here - with some price cuts - they are available to middle-class consumers. The promotional rhetoric appeals to a new generation of (mainly Malay) middle-class Malaysians asserting their new found prosperity through material wealth such as property (Jomo 1995).

> 'Embark on life in the future of the nation.'
>
> (Advertisement, MK Land 2006)

> 'As the world surges forward in high gear towards developing absolute lifestyles. Cyberjaya progresses imminently to building the generation of the future. Come, invest in the k-economy. And join the ranks of those who have chosen to set up their home in the wired community. Own a property at Cyberia Smart Homes in Malaysia's I.T. City.'
>
> (Advertisement, MK Land 1998)

Interviews with MDEC, and Cyberview outlined two effects smart homes were designed to produce. Firstly, residents of smart homes will become heavy users of ICTs in their everyday lives and utilise the flagship applications. This is framed in a technologically deterministic manner whereby the provision of ICTs is to produce specific effects so that residents vote, communicate, conduct business, innovate, pay their bills, all online. This perspective homogenises Cyberjaya's population and neglects the influence of gender, age, education on technological adoption. Furthermore, it assumes residents have relevant technological expertise and knowhow. Secondly, immersion in a technologically saturated environment will enable residents to both become and pioneer a new 'intelligent' generation. As Bunnell and Coe (2005) observe, promotional materials for the MSC frequently featured children to appeal to the desires of 'suitably affluent, middle-class parents...and the nurturing of intelligent, global families'. The MSC policy makers conceptualised a linear progression for a new generation of would-be 'intelligent citizens' from the smart school, to the smart home, to the knowledge economy. Following this technologically determined path, generational 'leapfrogging' articulates perfectly with Mahathir's 'Wawasan 2020' which imagined Malaysia would become:

> 'A scientific and progressive society, a society that is innovative and forward looking, one that is not only a consumer of technology, but also a contributor to the scientific and technological civilisation of the future.'
>
> (Mahathir 1991)

However, Cyberjaya was framed as both a national 'test bed' and experimental site for 'intelligent' living. On the one hand it was promoted according to utopian premises of freedom and technological liberation and on the other it facilitates state control and monitoring as a differentiated zone of state (neoliberal) governmentality (Ong 2000a; 2000b; 2004; Bunnell and

Coe 2005; Ong 2006; 2007). As discussed in Chapters 4 and 5, Cyberjaya was conceived as an extra-territorial zone for limiting potentially harmful effects of I.T.-facilitated global flows into local places in 'information age' Malaysia. The infiltration of information technology in the home can be read as an extension of techniques of disciplinary power by the state which is keen to use this city scale electronic panoptican for its own ends.

For example, the CCC was planned as a giant surveillance centre which electronically monitors, controls and surveys the city through a giant screen of live video feeds from Cyberjaya's CCTV system. The CCC also monitors internet traffic in smart homes and has direct links to the community services provided in Cyberia. In this context, the smart home can be recast as a locus in the production of new systems of production and control for 'informationalised capitalism' (e.g. teleworking) and a site for more pervasive means of state social regulation and management.

> 'The boundaries between individuals and individual's sense of privacy in the home, between institutions and corporations, are indistinct and permeable, constantly crossed by traffic of information flows, undermining completely the model of the private individual ensconced in an enclosed private space.'
>
> (Allon 2004: 269)

Specifically, the smart home can be interpreted as a mobile technology for the (invisible) management and regulation of 'intelligent citizenship' and a firewall against harmful outside influences to Malay(sian) value systems, culture, and religion. The smart home is a further means by which to keep the community under control (via electronic surveillance, covert censorship) and limit any negative spill over effects of foreign influence (e.g. political dissent) to the wider nation. True 'intelligent' socioeconomic development through genuine educational change and electronic freedom could have posed a threat to the government, as occurred before with online mobilisation of the "Reformasi" movement in 1998 (Chapter 5). However, the

promotional rhetoric ignores the implications of home automation for increased data collection, socio-spatial division, and the monitoring of individuals in favour of the simple celebration of opportunity and techno-liberation.

Added to the above, networked infrastructures supplying the smart home are configured in highly selective and unequal ways, their distribution reinforcing existing spatial division in the landscape. Utopian rhetoric glosses over how the city excludes 'non-intelligent' others through physical boundaries and gates but also the electronic terminals that monitor - and thus secure - the boundary between insiders and outsiders, home and not home. Smart homes may provide better connectivity, for some, but they also drive economic and social marginalisation for others. For example, Cyberjaya marginal socioeconomic groups include former plantation workers now employed as cleaners or security guards servicing corporate headquarters and exclusive condominiums and the imported construction workers from Indonesia living in shanty towns on the periphery of Cyberjaya (Figure 33).

Figure 33: Construction Worker Housing in Cyberjaya Located Against the Backdrop of the HSBC office (Source: Author's Photograph)

Grand technological claims to universal connectivity obscure the uneven infrastructure provision within Cyberjaya. For instance, the wireless network is privatised and in order to connect to the network residents must pay a fee and subscribe with the local internet service provider, MyKris.[90] Though Cyberia homes are broadband ready residents have to contact a local internet service provider in order to get connected. Normally internet is provided by Telekoms Malaysia which has a virtual monopoly in the Malaysian internet market. In Cyberia a subsidiary company called MyKris lease bandwidth from TMNet and resell internet to residents at a higher cost

[90] There are several wireless networks in Cyberia owned by residents that, if not password encrypted, offer unrestricted access. They are popular with residents who hack into these networks for free access.

than is normal.[91] This sits comfortably with neoliberal practices which divides those provided with low bandwidth public infrastructures from those connected to privatised telecommunications networks. For the marginalised groups at the bottom of the global hierarchy these telecommunications provision are completely out of reach. Most of the individuals servicing Cyberjaya (e.g. cleaners, bus drivers, security guards) remarked in casual conversation that they had never used a computer.

Evidence indicates beneath the egalitarian hype of internet access for all there is a clear 'political economy of cyberspace' (Luke 1999). The power of who owns and controls the networked technological infrastructures is ignored in Cyberjaya's touting of its own potential via the excessive rhetoric of the 'information age'. The operational architectures of Cyberia as fortified enclave and privatised network set limits on who is inside/outside, access granted/ access denied, and which citizens are compatible/incompatible with 'intelligent living'. By focusing on the prestige market, developers have ignored the practical uses of smart applications, or wider societal benefits. It is unclear just how 'ordinary Malaysians' can participate in this version of high-tech modernity; but the message is those that do will have to pay. These high-tech enclaves and premium network spaces exist in stark contrast to the abandoned landscapes of the excluded in the MSC.

7.4.3. Disentangling the Symbolic Production and Material Effects of ICT Usage

Building on the above arguments, two discursive disjunctures in Cyberia's smart home utopia can be identified: (a) non-adoption of 'intelligent' home automation systems; (b) urban disconnection and emerging insurgent forms of digital citizenship. These features of everyday textures of ICT usage in

[91] More information about MyKris can be found at http://www.mykris.net/web/main.html

Cyberia undermine Cyberia's promotional hype and help socio-spatially situate the experiences of individuals living in Cyberia.

Firstly, there was a low adoption rate of home automaton systems amongst residents interviewed. Lack of education, a shortage of local experts, the absence of training hindered the cultivation of 'intelligent' forms of living at the household scale. Most property investors purchased homes based on their investment potential then rented homes to students or workers in Cyberjaya and cared little about if, or how, the technologies would be used. This contrasts to the initial excitement described by 'early adopters' before moving into the Cyberia smart home complex. Their expectations were informed by promotional brochures which played heavily on high-tech futurism.

> 'I remember when we moved into Cyberia, we were all excited, it is called Cyberia smart homes, so it is suppose to be an intelligent homes, we thought it would be like James Bond type gadgets.'
>
> (Research Interview: Cyberia resident 4)

> 'Well what do we mean by smart? I think if you want to walk in and clap, or say "lights on", then it happens. In Cyberia it is not like that, you know like a house that can understand you. Voice recognition, thumb or eye scanning. These things. Alarms are high-tech. This is the technology right. Many things like this. This is the picture from the brand. I expected a lot from this place, but so far I didn't find much of it, it has been disappointing.'
>
> (Research Interview: Cyberia resident 6)

Another resident imagined that the home security systems would be more advanced than entering a pin to enter.

> 'Okay for example, I think we thought that for a smart home building it should be a very new design, and they are using new stuff. Like swipe cards

> instead of punch cards, and these kinds of technologies. Like also for the house, they are using not a key, but just to use their thumb to scan to enter. So it is easier. This is my vision of how life in Cyberia should be. It's like beyond our imagination, really cutting edge.'
>
> (Research Interview: Cyberia resident 6)

The smart home system was developed by a local company called Strandcom Technologies Sdn Bhd[92] in collaboration with MK Land. Each home is operated via an 'Intellipad' located on the wall close to the entrance. The home automation system has several main functions: an alarm system with interactive instructions for human voice operation, an answering machine function for incoming calls, home automation of lighting and air conditioning. The system can be upgraded to enable remote access using a mobile phone, or PC to connect to a home web interface.

During ethnographic fieldwork, 30 in-depth interviews were conducted with Cyberia residents. Results found limited adoption of smart home automation systems. The main obstacle to usage appeared to be a lack of knowledge about both the functions of the system and how to use it. Every home should be provided with an instruction manual but with a high turnover of residents amongst the population many manuals had been lost, or passwords for the system forgotten. In interview, Cyberia management distanced themselves from any responsibility to maintain or educate residents about the smart home features. One resident remarked how she cut the power supply to the Intellipad because she feared that it would run up her electricity bill, while another resident disabled his alarm and was then burgled. These findings are consistent with prior research on the adoption of smart home technologies that highlighted the influence of perception, expertise, and prior

[92] A Malaysian company that specialises in 'smart home solutions'.

knowledge on usage (Mathieson 1991; Taylor and Todd 1995; Brown and Venkatesh 2005; Brown et al. 2006).[93]

Residents often had unrealistic expectations. They drew upon the on the imagery of smart homes in promotional posters where residents inhabited a technological utopia living futuristic e-lifestyles always plugged in to one form of technology or another. After a while many residents found limited usage for the in-built technologies. Gadgets such as turning lights on remotely rapidly lost their appeal once the limited practical uses were revealed. One resident, a government worker in Putrajaya saw these as gimmicks used by the developers to entice investors in without every considering how residents would actually use the technologies. These potted incidents serve to illustrate how the project of 'intelligent' citizenship is unmade from below. On the ground resident interaction with the smart home is characterised by technophobia. Many were ignorant about what the technologies did, or exhibited general apathy regarding how turning lights on and off remotely can benefit their in daily lives. There appears to be little regard on the part of the designers as to what kind of smart home residents wanted to live in or how usage of an 'Intellipad' would create a new generation of 'intelligent' citizen's.

Secondly, while few residents used the home automation systems research found a high concentration in Internet usage both in terms of penetration and number of hours spent online. Every Cyberia resident recruited in casual conservation or formally interviewed (30 residents) had Internet access at home, and all were regular users of the Internet in their everyday lives. For interviewees being connected was a coping strategy for dealing with atomised daily life and feelings of being isolated or disconnected. This evidence builds on my argument from Chapter 5 concerning the design of

[93] The research also highlights the influence of age, gender, education on adoption. Although in Cyberia this is less relevant as all interviewees were non-adopters.

Cyberjaya as a disciplined space in which non-work distractions were removed. Emotional detachment is compounded in Cyberia's gated community which is physically detached from the outside world. Cyberia is deliberately designed as a self-sufficient complex[94] secured by guardhouses, and walled by perimeter fence from the outside. Cyberia's location is far from local amenities and transport links to nearby Putrajaya are poor. Many residents in interview referred to feeling unhappy because it felt like Cyberjaya was 'closed off from the world'.

> 'Cyberjaya is cut off, it can be quite a boring place. My computer connects me back to the world. I think [since] 2003. It changed slowly, now I wait for my friends to go online, and then talk to them. Now I never switch off my computer, 99% of my friends are the same. We are always connected or something. This is a new culture for me.'
>
> (Research Interview: MMU student 8)

Urban disconnection led communities of residents to mobilise digital forms of connectivity to compensate for their perceived and actual physical stasis. Like technologies before it - e.g. the telephone (de Sola Pool 1977; Fischer 1988) - the internet is used to overcome geographical constraints across space and in time. ICTs were used by residents to transcend the limitations of Cyberjaya's geography as disconnected space. In particular technologies were adopted to address distance to the city, and Cyberjaya's separation from Kuala Lumpur. Being connected digitally was a substitute for the offline, physical spaces of the city. Heavy usage of the internet had two main implications for daily routines amongst Cyberia residents. Firstly, being online became a form of recreation in Cyberia. Residents volunteered to keep simple of diaries of their everyday routines charting which technologies they used at which times. Many students returned home from class in the afternoon and 'went online' to 'pass the time' by downloading films, listening

[94] Cyberia has 3 restaurants, 2 convenience stores, laundry facilities, and a gym.

to music.[95] Residents spent time catching up on news from their home countries or communicating with people back home. Plugging into transnational information flows across 'cybertime' (Laguerre 2004), or communication with friends and family gave residents the feeling of being connected to the world through tele-presence. As with the previous example of SSO workers, 'disembedding mechanisms' restructure social activity beyond localised contexts and re-orientates them across time and space.

Secondly, residents participated in virtual communities through software applications such as MSN Messenger[96] or online gaming groups. MSN became an important mechanism through which Cyberia residents would feel connected to a wider imagined (often transnational) community beyond the boundary of Cyberia, or the city. This speaks to Bauman's (2001) assertion that the home is no longer an 'enclosed' space but now a 'phantasmagoric space' where electronic means of communication are bringing closer spaces of the near (e.g. household) and far (e.g. global). By 'being online', as their MSN status would show, they were in the social network but also simultaneously facilitating the radical intrusion of global networks into domestic spaces of the home, or the 'domestication of elsewhere'.

Ariane was an Indonesian student studying in Cyberjaya. Her experience was typical of others in Cyberia. In interview she noted how her textures of ICT usage had changed since she moved from Kelana Jaya in metropolitan Kuala Lumpur to Cyberia.

> 'Yes, it is very funny now, I open my MSN and my friends are always online, 24 hours a day, they have nothing to do. It's broadband, it is always connected, and we can use it without restriction. Most evenings people will

[95] This high network usage of downloading films may help to explain the slow internet speeds in Cyberia.
[96] An instant messaging software application, first developed by Microsoft in 1995, that allows users online to type messages and converse with one another in real-time.

be chatting online. It is the culture here, how we pass the time. If the internet connection goes down for example, we are very bored at home, nothing to do, just very bored. Before when we lived in KJ [*Kelana Jaya*] we would just go to the city and hang out. Cyberjaya doesn't have things to do like in KL, so we are isolated here.'

(Research Interview: Cyberia resident 13, *my emphasis*)

This example demonstrates how Ariane experiences the offline (situated, disconnected, embedded) and online (mobile, connected, virtual proximity) spaces of Cyberjaya in different ways. Living in Cyberia evokes physical stasis through urban disconnection but electronic mobility through new textures of ICT usage. This contrasts to her previous experience as an active user of offline spaces as a resident of Kelana Jaya which is connected to downtown Kuala Lumpur by LRT[97] within a 10 minutes. Although regularly checking her emails and course timetables online Ariane perceived ICTs in terms of their functional use. Now as a resident of Cyberia she feels disconnected from the city both materially in terms of distance to Kuala Lumpur, and imaginatively through her labelling Cyberjaya as a 'ghost city'. This sense of physical isolation is compensated through virtual connections, and being 'always available' through the computer. Therefore, Ariane substitutes her physical proximity to friends in Kuala Lumpur - which are a four-hour round trip away on public transport - with virtual proximity. Research in Cyberia found a culture where residents felt a constant need to be connected to the network, to be 'always be online'. Ariane would leave her computer online 24 hours a day and rarely turned the machine off. When out of the house she would change her MSN status to 'away' which meant she still appeared online, and her friends could still message her. She spoke about feeling anxious if she was away from her computer for too long, as being 'offline' meant in effect that she was out of the social loop for friends and organising activities. Reliance on the internet for recreation led to

[97] Kuala Lumpur Light Railway Transit (LRT) system covers the Kuala Lumpur Metropolitan Region.

increased privatism as individuals were isolated in their homes, but connected online.

In another example, Lance was an administrator for an online discussion forum for Cyberia. He was part of a community of online gaming adopters in Cyberia and frequently organised online games against other Cyberia residents[98]. Interviewees were mostly male, and all were students from MMU. This led to the development of nascent communities practicing of online gaming (Figure 34). Online gaming was another means through which residents in Cyberia would come together virtually for recreation. Often games would last for several hours every night and became a regular mechanism for 'passing time' in Cyberjaya. Some gamers described having their life taken over by an addiction to online gaming. This evidence speaks to a growing literature on the cultural and social impacts of online gaming communities (Kline and Alridge 2002; Manninen 2003).

[98] Online gamers favoured role playing games such as *Medal of Honour* (an army simulation where participants fight against each other as individual soldiers) or sports simulations (mainly football).

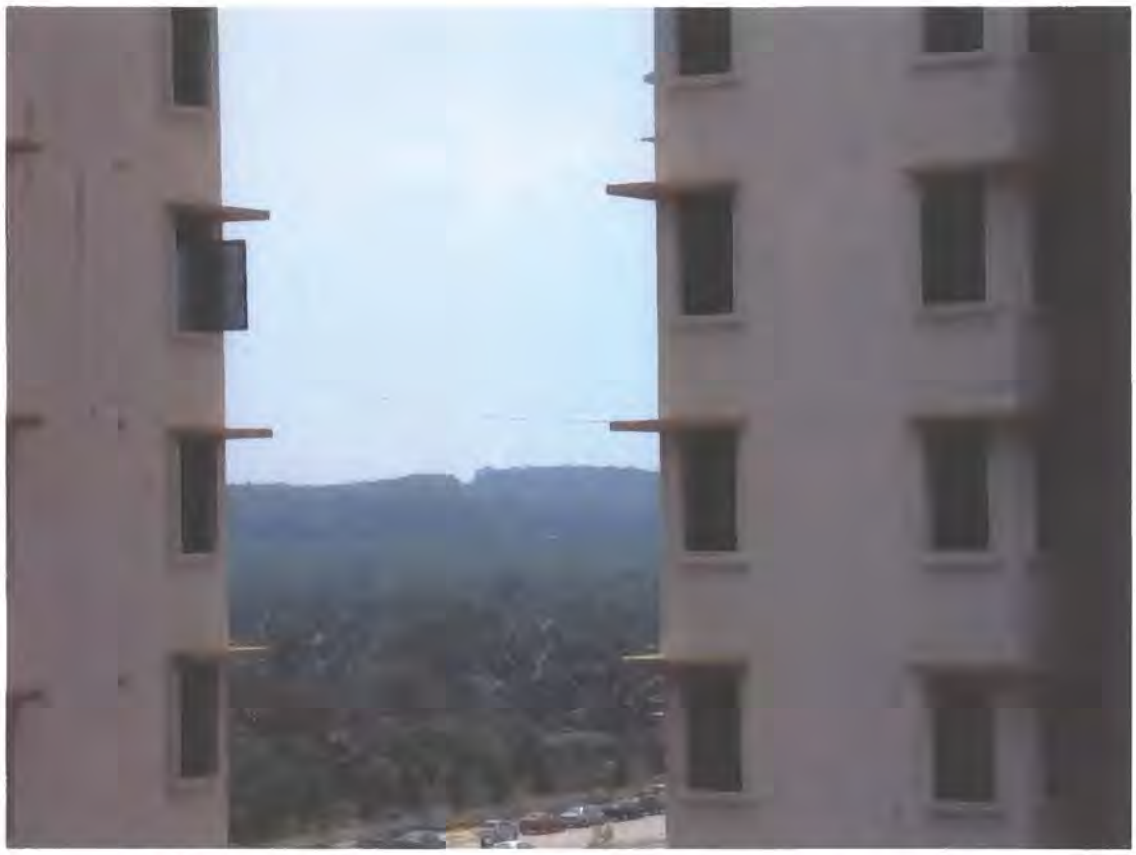

Figure 34: Wire in Cyberia Connecting a Community of Online Gamers (Source: Author's Photograph)

Evidence suggests urban disconnection and the creation of a sensorially impoverished environment led to inertia where the most important piece of smart home furniture is the chair. This resonates with Virilio's (1987a) assertion that high-tech immersion has made human bodies superfluous, disabled and sedentary. These would-be 'intelligent' citizens were not necessarily spending their free time in Cyberjaya's 'innovative' green spaces or engaged in the MSC's range of flagship applications. Both narratives demonstrate how technologies in Cyberia are being reworked, and reappropriated from below through everyday practices of resistance. Through online gaming communities, or using the internet as a recreational tool, ICTs are being used in a number of unintended ways and have led to the creation of insurgent forms of digital citizenship where residents appropriate ICTs for their own ends. This is at odds with technologically

determined plans for how the state imagined the smart home would be embedded in the national landscape. The goal to connect Cyberia residents to flagship applications didn't materialise, but instead new forms of digital connectivity have materialised through patterns of Internet usage whereby going online becomes a substitute for physical activities and interactions in Cyberia.

This raises broader questions concerning what constitutes 'intelligent living'? Firstly, Cyberia residents did not make a correlation between heavy usage of the Internet and leading 'smart lifestyles', or becoming more technology savvy citizens. These technologies were part of the mundane, taken for granted life worlds of residents. Computers, mobile phones have become so ubiquitous for Cyberia residents that they are considered banal and have 'produced the ordinary' (Amin and Thrift 2002). Upon asking residents if they felt they were living more high-tech lifestyles since coming to Cyberjaya, all said no, they were not. Residents did not correlate 'being online' with 'being smart'. Logging on to the Internet on a daily, or hourly basis was an activity which most residents simply took for granted. Secondly, the state defined 'intelligent living' as more than simple internet usage and articulated the concept with broader social and economic development goals. However, the high-tech futurism through which the MSC Malaysia project was launched failed to address the practical implications of: (a) what constituted 'intelligent' living beyond a tight focus on usage of flagship applications; (b) their contribution to the economic development goals outline in the state's 'Wawasan 2020'; (c) how 'intelligence' could be measured or evaluated; (d) technologically determined plans for societal transformation.

7.5. Conclusion

The chapter has challenged the social construction of neoliberal globalisation and transnational political-economic forces 'from above' by

illuminating everyday practices that cut across Cyberjaya's landscape to produce disorderly, unexpected human geographies. The chapter addressed globalised working and living practices as a critical lens to how the high-tech spaces of the city are socio-spatially situated and imagined by its residents. Through the two vignettes the chapter has further shown the disjuncture evident in Cyberjaya's claims to produce new forms of 'intelligent' living and working.

Firstly, in-depth research with staff from MNCs examined the everyday work practices of the global back-office. This showed how I.T.-facilitated globalised work practices technologies are dislocating the individual experiences of local time-spaces and leading to the production of new hybridised identities. Secondly, through the narrative of the Cyberia smart homes fieldwork evidence questions Cyberia's claims to produce a globalised residential space and a national site for 'intelligent' living. To this end, fieldwork evidence revealed how residents experience everyday life in Cyberia and appropriate technologies of the smart home for their own ends in the production of insurgent forms of digital citizenship.

Chapter 8. Conclusion

8.1. Introduction

The final chapter draws together the overall conclusion of the thesis. Section 8.2 outlines the main empirical findings of the thesis. Section 8.3 discusses the main policy implications of the study. Section 8.4 suggests agendas and avenues for undertaking further research, both within the specialist field of technopole planning in Southeast Asia, and the broader research field of ICTs, urban development, and urban futures. The final Section, 8.5, is the postscript.

8.2. Empirical Findings

The aim upon which research conducted was to disentangle the symbolic and material effects of technopole planning practices in Cyberjaya. Accordingly, the thesis sought to answer the following four research questions:

1) *What is the nature of the Malaysian 'information society'?*
2) *How are the discursive architectures of the 'information society' inscribed on the landscape?*
3) To what extent does Cyberjaya's discursive framing map onto its existing everyday geographies?
4) *How is everyday life technologically mediated in Cyberjaya?*

Chapters 4 and 5 addressed research questions 1 and 2 and critically examined the discursive mobilisation of the MSC as a *textual space,* focusing on how specific discourses were mobilised, by whom, and to what

effects. Chapters 6 and 7 addressed research questions 3 and 4 as the empirical enquiry critically unpacked the planned vision of Cyberjaya as 'intelligent city' to dissect how the development was experienced 'on the ground'. Three significant geographical consequences of technopole planning were identified: (a) the variegated 'splintering effects' - e.g. gated communities, enclave spaces, and urban securitisation - operational in the development of Cyberjaya; (b) the political economic geographies of Cyberjaya as 'slippery space' in becoming a new global back-office hub; (c) the technological mediation of everyday life and its unplanned spatio-temporal effects on staff in Cyberjaya's SSO industries and residents of the Cyberia smart home complex.

The main theoretical argument of the thesis has been to move from an emphasis on the abstract capabilities of information technology *per se*, to the complex processes through which technologies are appropriated in technopole planning practices, the political-symbolic work they undertake, and how this interrelates with contemporary urban development. The thesis has focused on both the discursive forces shaping technopole planning practices, and has promoted an analytical sensitivity to their material consequences in the built environment. This is an important field of enquiry because often empirical studies have failed to critically unpack the urban consequences and political ramifications of technopole planning practices as 'information society' discourses have been appropriated in regional and national development plans.

The context for the empirical enquiry was threefold. Firstly, the project was driven by a conceptual critique of 'information society' discourses and their theoretical laxity towards technological determinism. This theorisation tends to obfuscate the complex ways in which technologies and cities interrelate, with varied political, economic, social and spatial consequences. Secondly, the study emerged in response to the proliferation of technopole planning

strategies in East and Southeast Asia promoted by governments as strategic urban sites for plugging into a hyped, globalised 'new economy' with imagined universal benefits for all citizens. Thirdly, the research critically focused on how notions of state developmentalism, high-tech modernity, and national socio-cultural transformation were woven together in Malaysia's MSC mega-project.

The main empirical findings were discussed in Chapters 4 to 7 respectively. By synthesising empirical evidence with the individual research questions identified above three main thesis conclusions can be identified.

(a) The MSC as a Textual Space Mobilised Through the Utopian Discursive Architectures of the Information Society' and 'New Economy'.

In response to research questions 1 and 2, the first conclusion observes that place marketing strategies for the MSC far exceeded the project's material capabilities or limitations. Moves from the state and Mahathir to position MSC as a symbolic flagship project incorporating notions of neoliberal globalisation, regional inter-urban competition, and post-colonial technological independence were reflexive, self-conscious strategies. Utopian claims that the MSC would create a global 'test bed' in which the 'the whole world would be invited to realise the benefits of ICTs' were entirely symbolic or imaginative, partly driven by Mahathir's vanity, and grandiose in the extreme. The projection of Cyberjaya as the flagship site for 'intelligent-led' development were designed to promote the global visibility of Malaysia and position the city as an investible location for I.T. industries. These place promotional strategies were a key resource for the state priority of projecting an image of 'information age' Malaysia as a 'world-class' location.

Chapters 4 and 5 examined the processes by which 'information age' imaginings were mobilised and inscribed on the landscape by transnational planning firms as the 'intelligent city' was superficially positioned by the state as a locale free from Malaysian vested interests and a proposed physical hub for R&D activities. Technopole planning was conceived as a linear process through which a global economic node would be created, which would attract foreign companies which, in turn, would transfer expertise and technology to local industry with the effects of fast-tracking national development to a proposed 'Wawasan 2020'. These imagined socioeconomic impacts were mobilised through a series of 'information age' myths that were packaged and sold across multiple scales in an effort to 'sell' the MSC. Firstly, there was the myth of technological determinism and neoliberal spatial transcendence in which investment in ICTs were seen to move Malaysia from the periphery to the centre of the 'anytime/anywhere' global economy. Secondly, it was assumed that the creation of a wired environment set within an 'intelligent garden city' would foster the entrepreneurial conditions for Silicon Valley replication and the creative development of a 'new economy'. Thirdly, that investment in ICTs would enable the country to 'leapfrog' up the value chain and become a developed nation by the year 2020. In turn, ICTs would produce wider social and cultural benefits enabling Malaysia to become an 'intelligent' nation. Although, beyond an emphasis on I.T. as a future driver of national economic competitiveness, the criteria by which 'intelligent' development was to be judged was never defined by the state. Fourthly, that the Malaysia state was powerless in the face of neoliberal globalisation and must respond to this 'new era' or be left further behind in the race for economic development.

Chapters 5 and 6 illuminated how this discursive framing mapped onto everyday experience in Cyberjaya and examined: (a) how living, breathing, corporeal human beings inhabit 'intelligent' live/work spaces; (b) the material

effects of producing a deregulated, neoliberalised space when the state 'rolls back', and multinational capital moves in; (c) the spatial outcomes of technopole planning when projects are put in the hands of private developers and interests. Empirical material critically examined how socio-spatial transformations mobilised in the MSC were deliberately camouflaged in a cloud of 'information age' hyperbole. Underneath this seductive gloss the project facilitated an urban secessionary movement of MNCs and technocratic elites to a 'resort style' urban enclave at massive state expense and social and political costs for those groups unlucky enough to be in the way. Research examined how the discourse of 'intelligent development' functioned as a political vehicle for maintaining specific vested interests which manufactured the baseless image of Cyberjaya as 'intelligent city' to differentiate the city vis-à-vis its economic competitors. However, this urban futurology fetishism has functioned as spatial camouflage by masking critical geographies of socio-spatial splintering that have accompanied the production of neoliberal place making strategies in Malaysia.

(b) Cyberjaya as a 'Slippery Space' in the MSC's Emerging Landscape of Neoliberal Modernity

Through a range of urban entrepreneurial strategies the Malaysian state sought to create 'fixing point' to both rescale national development at the urban scale and reterritorialise global economic flows in national territory. To this end, Cyberjaya version 1.0 was conceived as wired, interconnected urban zone and an 'ideal environment' for I.T. facilitated 'new economy' processes and conducive to innovative live/work practices. The 'garden city' and 'cybernetic city' planning models were fused together via transnational planning practices that were to create an 'exemplary' global technopole to embody Malaysia's putative 'information society'. In response to research question 3, evidence has highlighted the disjuncture between the symbolic positioning of Cyberjaya as 'sticky place' in the global economic system and

its material reality as 'slippery space'. The research has observed that contrary to state led rhetoric of creating a global node and an inclusive national site for 'intelligent' high-tech development, Cyberjaya version 2.0 has become little more than a disconnected, foreign direct investment enclave characteristic of emerging neoliberal modernities in Southeast Asia. Beneath the hype of the 'intelligent city' sloganeering the development more accurately resembles a mundane business park. The concept of 'national development' has been reduced to the privileged property rights of foreign capital with the Malaysian government a willing actor in proffering its labour for MNCs.

Cyberjaya's technopole planning strategy has created an 'enclave urbanism' symbolically and physically splintered from surrounding national territory through three mechanisms. Firstly, Cyberjaya has become an extra-territorial space governed by distinct political and legal infrastructures, as set out in the 'Bill of Guarantees' that do not apply to rest of the country. Secondly, these guarantees together with a range of financial incentives were deliberately mobilised to encourage MNCs and their staff to relocate to a delimited spatial milieu where they could be effectively managed by the state. This has produced a fortified 'intelligent' urbanism characterised by the presence of MNCs housed in secured corporate campuses which are provided with specialist networked infrastructures to enable them to link up to the global informational economy. Management level expatriate labour was 'imported' from overseas to run the back-office support functions and is housed in gated communities in Cyberjaya or downtown Kuala Lumpur.

Thirdly, the thesis has avoided any suggestion that Cyberjaya has become a 'global bubble' simply inserted into Malaysia thereby producing a decontextualised space that writes over local histories, geographies or politics. Cyberjaya has become a hybridised site which is partly deterritorialised to the global via its connection to, for example, transnational

flows of foreign direct investment and global circuits of information exchange; but is also deeply territorialised in the spatial milieu and cultural politics of the local. As Chapters 5 and 6 observed, Cyberjaya's appropriative technopole model of globalising economic development has also found ways of imbricating 'indigenous' tradition (e.g. 'Disneyfied' Malay-Islamic vernacular) with global ambition in the practices of urban modernity. The state functions as a mediator between the conflicting forces of a predatory inward migration of globalised capitalism and an indigenous capitalism seeking to internationalise. These processes are further bound up in Malaysia's contested geographies of nation building and complex racialised politics that the thesis has engaged with.

In identifying Cyberjaya as a 'slippery space', the thesis does not seek to replace the utopianism of the 'information society' with an equally bleak, dystopian urban picture of neoliberal capital's unfolding production strategies in Southeast Asia. For example, despite failing to live up to its own excessive hype, the project has become an emerging hub for SSO activities in the global economy. Global coalitions of consultants (e.g. McKinsey, AT Kearney) have emphasised the potential of Malaysia's low cost, educated, multicultural, multilingual workforce in adding value to the aim of becoming a new global hub for the offshore service economy. In turn, the unplanned growth of this industry has served to create jobs for Malaysians and upgrade human capital through exposure to globalised work practices within MNCs. However, as the state becomes increasingly reliant on MNCs in the country's export economy platform it is unclear, in the event that economic conditions altered, just how long would these jobs last. With the rise of regional (Vietnam, the Philippines) and global (China) competitors in the SSO industry it appears to be a case of *when*, and not *if*, Malaysia loses its competitive advantage in the sector.

c) Disentangling the Planned Effects of 'intelligent' Live/Work Practices and the Technological Mediation of Everyday Life in Cyberjaya

In addition to repositioning Malaysia for high-tech investment under the auspices of the 'new economy' the MSC sought to promote new 'intelligent' ways of being and seeing for Malaysians. The state, in alliance with 'foreign experts' (e.g. Gates, Ohmae, and the IAP), sought to formulate an urban vision for the 'information society' based on the proliferation of ICTs across social, economic, and political life. As Chapters 4 and 5 observed, Cyberjaya was founded on a modernist governmental faith in creating a new generation of 'intelligent citizens' to be nurtured in a new national 'test bed' for 'information age' Malaysia. Cyberjaya was conceived as an 'intelligent garden city' and designed to create a new urbanity in which residents would realise the universal benefits of information technology to engage in high value-added 'new economy' work practices.

In response to research questions 3 and 4 the thesis has endeavoured to critically unpack these technologically and ecologically deterministic narratives and disentangle the utopian visions of the MSC vis-à-vis its material effects. Rather than accepting optimistic projections of a Malaysian 'information society', and the urban utopia of Cyberjaya as its consequence, the research mobilised ethnographic methodologies to examine how everyday life was technologically mediated. Problematically, state mobilised visions of 'intelligent living' preceded the material completion or habitation of Cyberjaya, and attention to how people would live there was an afterthought in city development plans. There is a lacuna of empirical work examining how these built environments interacted with a new generation of residents or how the 'information society' discourses used to symbolically clothe the city were enfolded into citizen's perceptions and everyday experiences. To this end the thesis identified two alternative narratives that deviate from state mobilised development scripts positioning Cyberjaya as emblematic of a new

Malaysian urban modernity onto which all Malaysians could eventually be mapped.

Firstly, the thesis has argued against projections of a placeless globalism, in which the 'new economy' functions as an inevitable process operating in some 'rarefied stratosphere', by examining the practices through which transnational economic processes are constituted. Research captured everyday geographies of transnational back-office staff and identified three practices symptomatic of worker experiences at the margins of the global economic system: (1) colonisation by time; (2) the behavioural decoupling of time zones; and (3) geographical location-masking. Ethnographic research with back-office staff captured the lived experience of individuals caught up in and mediating the offshore information economy. These narratives elucidate the spatio-temporal 'splintering' effects as they are experienced through the micro processes of 'the everyday' in Cyberjaya. The research has highlighted in contrast to the 'intelligent' R&D work planned for Cyberjaya version 1.0, in Cyberjaya version 2.0 technology has enrolled Malaysians into routinised back-office work practices underpin by a postcolonial relationship of Malaysian dependency on Western cultural-economic flows.

Secondly, Cyberia smart homes were conceptualised as a wired locale where the planned effects of 'intelligent living' with ICTs could take shape. Chapter 5 explored how 'intelligent' branding strategies were seized upon by developers to add value to residential developments. However, behind the place promotion hype of Malaysia's premier 'dot.com' property development, research examined how the inadvertent linguistic conflation with Soviet-style banishment to hostile environments was more than just a coincidence. Cyberjaya was deliberately planned as a disciplined space and high-productivity work camp dislocated from metropolitan Kuala Lumpur. While the 'intelligent city' planning did create order and functional segregation it did

so at the cost of producing a sensorially impoverished, culturally destitute and bland inauthentic environment exemplified through resident experiences of urban alienation.

Building on this critique, Chapter 7 illustrated that smart home systems soon became obsolete or were under-utilised because residents found little practical usage for them. In contrast, many residents were heavy internet users as a means of compensating for the sense of isolation experienced living in Cyberjaya. Both lines of empirical enquiry illustrate counter-hegemonic narratives and suggest the increasing banalisation of I.T. usage both at work and in the home. Ten years on from the hype of a 'multimedia utopia' the internet, mobile phones and numerous other gadgets have become taken for granted artefacts and unremarkable features of everyday life in Cyberjaya, as elsewhere.

The dystopian realities of 'intelligent living' can be set against the utopian development plans of Cyberjaya as an 'exemplary' global live/work space. These counter-hegemonic narratives of technopole planning make an important contribution to analysis of the MSC in the semi-authoritarian context of Malaysia where the state controls the popular press and restricts academic freedoms.

8.3. Policy Implications

The MSC Malaysia case functions as a critical lens to address the wider implications of urban telecommunications policy making through technopole planning practices. Caution needs to be exercised in drawing wide generalisations from an area specific case study. However, bearing in mind the depth of the empirical analysis the thesis provides a valuable position from which to speculate on how evidence from Malaysia can provide a basis for suggesting lessons for policy makers, urban planners, and national

governments when adopting technopole projects for national development purposes. Three main policy lessons can be highlighted.

(a) Problematising the Uncritical Acceptance of High-Tech Futurism by Policy Makers

The hyperbolic rhetoric of a new 'information age' has been used to enrol often poorly informed urban policy makers into making local 'partnerships' to develop new information districts, communication corridors, and high-tech development zones of various sorts (Graham and Marvin 2000). This was based on the assumption that technopole development can re-orientate the city, or parts of it, as a 'command and control centre' (Sassen 1991) and respond to the structural needs of corporate interests. In the 'global south', local political actors have been reduced to 'selling' local conditions and proffering the labour force to entice the foreign direct investment which these projects inevitably rely on. However, as seen with the MSC, once the hype subsides it is the multinational I.T. companies who have first option on premium infrastructures and are able to reap the benefits of the financial incentives while remaining disconnected from the lives of their immobile employees and the social needs of their host countries.

Invariably, these 'new economy' discourses are mobilised through, and for, specific interests, and their achievability rarely matches up to the high-tech futurology that underpins policy materials and place promotion brochures. As technopole planning continues to be appropriated in national urban telecommunications policy, further research is required to illuminate their socio-spatial consequences, and concomitant political implications.

(b) The Dangers of Imitation: The Need to be Attuned to Diverging National Contexts

The case study clearly exemplifies that urban telecommunications policy making needs to be more dynamic than simply inserting technopole development 'models' onto an existing urban landscape to produce specific, predetermined effects. Cyberjaya is one of a long line of technopole projects that have attempted to directly replicate the entrepreneurial conditions of Silicon Valley with limited success. Through the transnational diffusion of planning ideas, state policy makers have been seduced by a belief in the paradigmatic examples of specific urban case studies that are wrongly interpreted to offer lessons for all other urban areas. Problematically, policies geared towards imitation or transnational planning practices assumes a degree of inter-urban homogeneity both in the factors leading to urban transformation and the processes involved (Amin and Graham 1997).

The planning of Cyberjaya as iconographic exemplar, symbolic of Malaysia's high-tech modernity was problematic because it glossed over the actual spatial consequences of: (a) the importation of urban planning models through transnational collaborations with 'foreign experts'; (b) assuming that the 'intelligent city' would become an exemplar in its own right, and rolled out to other locations in Malaysia; (c) the urban consequences of technopole planning where 'winning' access to global capital may come at the price of over-writing, or excluding local identities. The thesis has highlighted that as the state appropriated 'information society' discourses to legitimate for large-scale urban transformations whereby intelligent development created, a splintered urbanism of intelligent fortified enclaves located alongside disconnected, 'non-technologised' developments.

(c) Multimedia Super Corridor as a State Policy Failure?

The role of the thesis has not been to evaluate the success or failure of the MSC Malaysia project. However, it is clear that the project has predictably failed to live up to its own hyperbole of becoming a 'multimedia utopia'. The

project was poorly conceived, badly implemented and in the planning stages there was little effective communication between the ideological architects, wider business community or national populous regarding the policy goals of the MSC and how these would be achieved. The MSC project was highly ambitious and dependent upon: (a) the universal diffusion of highly advanced technology infrastructures throughout the MSC to even out regional disparities; (b) a critical mass of users who unproblematically accepted and took for granted these technological infrastructures. However, there is little empirical evidence here or elsewhere (Bunnell 2004; Lepawsky 2005) to suggest the MSC did either.

Often grandiose urban telecommunications policy depends on the successful development and marketing of specific applications, infrastructures, or technological systems. However, over the last ten years the project has failed to produce a new generation of 'technopreneurs' or a track record of innovative Malaysia start up companies. The project's development eerily mimics the growth of the Malaysian electronics industry in the 1980s which privileged foreign investment in FTZs but led to little technology transfer or domestic value-added enterprise. The Malaysian experience highlights, despite the Mahathir's nationalism, and attempts at state autonomy, that the economic and politics forces of neoliberalism are proving increasingly difficult to resist or even effectively manage by the state in an extra-territorial zone like Cyberjaya.

In the wake of the dot.com bust Cyberjaya's failure to match its own hype can conveniently be attributed to 'external' factors. However, Cyberjaya's planning history can be read in more critical terms as one of a long list of projects that simply did not materialise. From the planned city command centre to the E-village, most of the grand ideas were characterised by excess and some abandoned in the planning stages (Chapter 6). Ten years on the smart school appears to function just as any other in Malaysia. Most

citizens have yet to connect with their doctor through telemedicine or communicate with the government electronically.[99] These policy failures represent a massive disjuncture between the technological imagination of Cyberjaya as high-tech utopia and the urban imagination of Cyberjaya as 'intelligent garden city' which has been the central concern for the thesis.

8.4. Future Directions and Areas For Research

Future research needs to shift from generalised debates about the impacts of globalisation, the 'information society', and ICTs on the built environment to more nuanced analyses of the practices through which these processes are constituted, and lived out. The scale of future empirical research is extensive but needs to be sensitive to cross-national variations, the unique localised contexts in which technopole planning occurs, and the multifaceted ways these projects are experienced by different actors on the ground. Further case study analysis can explore the disjunctures between the imagined symbolic effects of these utopian development plans as perceived by the architects of these projects compared to the 'view from below' from those individuals who live and work in these new, supposedly high-tech places.

The agenda for future research follows two distinct strands. Firstly, there is scope for further empirical engagement with the MSC as the project is 'rolled out' into wider national space as different states bid to attract their own cybercity 'franchise' (e.g. Penang Cybercity, Johor Cyber Port, Kulim High-Tech Park). Research will critically examine the discursive architectures mobilised in Phase 3 of the MSC 'roll out' and its material geographies in the production of Malaysia's embryonic 'intelligent landscape'. Secondly, research will focus more broadly on the emerging geographies of neoliberal modernity throughout Southeast Asia and beyond. Future research can add

[99] Six years after being tasked to set up ePerolehan under the e-government flagship, Commerce Dot Com (CDC) has yet to complete the national rollout of electronic procurement which was to be the centrepiece of the e-government vision.

empirical depth to how neoliberal globalisation discourses function as spatial camouflage to mask the intensifying corporate control of cities, or sections within, as the state 'unbundles' its infrastructure provision or promotes deregulation in order to 'win' global capital. These asset seeking strategies physically manifest themselves in the creation of numerous 'spatial products' or enclaves for foreign capital (e.g. back-office zones, gated communities, business parks).

The thesis has suggested that the implicit assumptions of technological determinism, and high-tech futurism that have long dominated the treatment of ICTs in urban studies, need to be avoided by placing technopole planning in its full social, cultural, political, economic, and spatialised context. The research has suggested that the focus needs to move from an emphasis on the abstract capabilities of information technology per se, to the complex process through which technologies are appropriated in urban telecommunications policy, and the effects these have on cities. Furthermore, the thesis has critically unpacked the transnational diffusion of planning ideas alongside neoliberal 'anytime/anywhere' discourses to examine the urban consequences of technopole planning. There is an enormous research agenda on the interrelations between contemporary urbanism and ICTs in the light of the transformations undergoing cities and the discursive appropriation of new technologies in urban futures. Clearly, much work is still required, but it is hoped this study makes at least a small contribution to this wider intellectual project.

8.5. Postscript: The Future Is Here, So What Now?

Ten years after the fanfare the future is finally here and the impacts of the MSC on Malaysian economic, social, political, and cultural development have been marginal. Despite the hyperbole, the MSC endeavour has been far from revolutionary endeavour and has drifted out of the public

imagination in Malaysia just as quickly as it once took hold of it in the mid-1990s.[100] The project was then conceived in a moment of unparalleled technological utopianism and relentless speculation about the nature of a coming 'information age'. However, we now live in more sobering times. Firstly, in the wake of the 1997-1998 Asian Financial Crisis, and the political turmoil that followed in the 'Anwar Affair', the national optimism that once coined in the phrase 'Malaysia Boleh' ('Malaysia can do it') has since waned. Malaysian self-confidence has struggled in the political transition to a less spectacular, post-Mahathir era under the 'safety first' style leadership of his hand-picked successor Abdullah Badawi.[101] Secondly, the 'dot.com' stock market collapse between 2000 and 2002, and numerous financial scandals that have engulfed several telecommunications corporations, raised serious doubts whether Malaysian investment in the 'new economy' was a viable long term economic strategy. Thirdly, now many of these once heralded technologies have since 'produced the ordinary' (Amin and Thrift 2002: 103) and become banal, normalised, taken for granted features of everyday life in urban Malaysia. At the launch of the MSC the Internet revolution had not yet reached Malaysia but now in 2008 Kuala Lumpur is dotted with numerous internet cafes, Wi-Fi enabled coffee shops, and a high penetration of bandwidth connectivity for those who can afford it. In this contemporary scene, talk of a new 'information age' or 'multimedia utopia' appears tired and dated. Although massive technological inequalities still exist between those wired spaces reorientated towards global capitalism in the MSC and its hinterland comprising of numerous disconnected 'lag-time places'.

So what of Cyberjaya? Once the initial euphoria and urban boosterism inevitably died down the 'intelligent city' manifested itself as a rather dull

[100] Perhaps the biggest indication of how MSC hype has waned is evident with the list of attendees for MSC's most recent IAP meeting held in Penang on 17th to 19th of May 2007. An event which once attracted a roll-call of global I.T. heavyweights now includes the general manager of Al-Jazeera children's channel.

[101] At the time of writing in 2008 the Malaysian government had just suffered its worst national election result since 1969, carrying a reduced majority into parliament.

perfunctory business park clone for I.T. related companies - *think* call centres, accounts processing, data centres. The sylvan landscapes of endless green lawns, manicured flowerbeds and a sprawl of faceless glass and steel office frontages confirmed the worst fears that Cyberjaya had in fact become yet another offshore hub for MNCs and their back-office operations. Furthermore, for the residents who inhabit it, their experiences were characterised by simple boredom and the rapid banalisation and obsolescence of purportedly 'smart', 'intelligent', or 'cyber' environments. Once the 'shock of the new' subsided residents reported a sense of isolation that inevitably accompanies human habitation of a site tailored to the needs of multinational capital and geared towards maximising productivity in a sensorially impoverished environment where work routines are not just a part of life, but are the way of life and the way life is. Therefore, the ultimate conclusion is that the MSC has become a discursive device for promoting specific real estate and corporate interests that is detached from its original claims to create a Malaysian 'information society' and a 'new economy' in which Malaysia would become a global hub for information technology.

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Appendices

Appendix 1: Fieldwork

(1) Participant Observation and 'Go-Along' Interviews

(a) The main sites for participant observation

- City Command Centre, Cyberjaya. (April to May 2006)
- Cyberia Smart Home Complex, Cyberjaya. (May to December 2006, September to December 2007)
- Cyberjaya Street Mall, Cyberjaya. (May to December 2006, September to December 2007)

(b) 'Go-along' interviews conducted in Cyberjaya

- Saiful, Shell IT, Cyberjaya. 'Go-along' conducted around the Shell I.T. campus in Cyberjaya. (05/12/2006)
- Karveen, Limkokwing University, Cyberjaya. 'Go-along' conducted around the Limkokwing campus in Cyberjaya. (10/11/2006)
- Hamdi, Paradmoden, Cyberjaya. 'Go-along' conducted during walking tour of Cyberia smart home complex. (26/07/2006)
- Jaffrin, SH Technology, Cyberjaya. 'Go-along' conducted during tour of Cyberview resort complex in Cyberjaya. (13/09/2006)
- Jaffrin, SH Technology, Cyberjaya. 'Go-along' conducted during tour of City Command Centre in Cyberjaya. (13/09/2006)
- Student 12, Limkokwing University, Cyberjaya. 'Go-along' conducted around Cyberia following journey to the Limkokwing University campus. (09/10/2006)
- Student 9, Multimedia University, Cyberjaya. 'Go-along' conducted around Multimedia University campus. (15/08/2006)
- Student 11, Cyberia Smart Home Complex, Cyberjaya. 'Go-along' conducted from Cyberia to the Street Mall complex. (21/08/2006)
- Student 10, Multimedia University, Cyberjaya. 'Go-along' conducted during walk around Multimedia University.

(2) In-Depth Interviews

Alongside informal exchanges and conversations accumulated through participant observation I conducted a number of formal interviews. All names are pseudonyms to protect the anonymity of participants.

Name	Organisation	Description	Date

Corporate Affairs Manager	BMW	MSC status company, Cyberjaya	15/10/2006
Venky, Logistics Manager	BMW	MSC status company, Cyberjaya	15/10/2006
Vijay, Logistics Team	BMW	MSC status company, Cyberjaya	21/10/2006
Pang, Manager Finance and Sales	Fujitsu	MSC status company, Cyberjaya	03/10/2006
Craig, Country Manager	Freisland Food	MSC status company, Cyberjaya	09/10/2006
Sarvin, Country Manager	P2iOnline	MSC status company, Cyberjaya	15/11/2006
Cindy, Team Manager	Panasonic	MSC status company, Cyberjaya	15/11/2006
Hati, CEO	DreamTeam Studio	MSC status company, Cyberjaya	16/11/2006
Sunni, Division Head	Motorola	MSC status company, Cyberjaya	16/10/2006
Chin, Manager	Technomen	MSC status company, Cyberjaya	17/11/2006
Greg, Director	CSF	MSC status company, Cyberjaya	23/09/2006
Pankaj, Country Manager	Satyam	MSC Status company, Cyberjaya	23/11/2006
Peter, Country Manager	WoltersKluwer	MSC Status Company, Cyberjaya	28/09/2006
Kazly	SHELL IT	I.T. worker, Cyberjaya	06/12/2006
Joe	SHELL IT	I.T. worker, Cyberjaya	06/12/2006
Saiful	SHELL IT	I.T. worker, Cyberjaya	05/12/2006
Mansor	SHELL IT	I.T. worker,	01/10/2006

Arief	IBM	Cyberjaya I.T. worker, Cyberjaya	21/11/2006
Auyu	IBM	I.T. worker, Cyberjaya	11/10/2006
Fikri	IBM	I.T. worker, Cyberjaya	20/09/2006
Karveen, Marketing Team	Limkokwing University (LKW)	Limkokwing University, Cyberjaya	10/11/2006
Sarah, Manager for Marketing	Setia Haruman	Cyberjaya Master Planner	12/09/2006
Khairul, Senior Planner	Setia Haruman	Cyberjaya Master Planner	12/09/2006
Suhana, Manager	Sepang Municipal Council	Local Council in Cyberjaya	10/11/2006
Rashid, Head of Marketing	Cyberview	Cyberjaya Land Owner	15/09/2006
Shaheen, Executive	Cyberview	Cyberjaya Land Owner	15/09/2006
Hamdi, Head of Marketing	Paramoden	Developer of Cyberia Smart Homes	26/07/2006
Chin, Cyberia Manager	Paramoden	Developer of Cyberia Smart Homes	26/07/2006
Ray, Director	C2Media	Marketing Consultant for Cyberia to Paramoden	29/07/2006
Ed, CAD-C Manager Saladin Producer	MDEC	Creative Multimedia Cluster, Cyberjaya	04/10/2006
Greg, Saladin director	MDEC	Creative Multimedia Cluster, Cyberjaya	20/10/2006
Atief, Division Head	MDEC	Shared Services and Outsourcing Cluster	14/10/2007
Bill, Head of Creative Media Cluster	MDEC	Creative Multimedia Cluster, Cyberjaya	19/09/2006

Wee, Head of Cybercities Divison	MDEC	Cybercities Division, Cyberjaya	29/08/2006
Gracie, Team Manager	MDEC	Cybercities Division, Cyberjaya	29/08/2006
Dr. Abu, Senior Vice President	MDEC	Technopreneur Development Division	15/10/2006
Azmam, former director with Setia Haruman	MDEC		27/09/2006
Jaffrin, SH Technology	Setia Haruman	SH Technology	13/09/2006
Zaid, SH Technology	Setia Haruman	SH Technology	13/09/2006
Professor TSO, Head of MSC Relations unit with MMU	Multimedia University (MMU)	MSC relations unit	14/11/2006
Student 1, Cyberia resident	LKW		04/09/2006
Student 2, Cyberia resident	LKW		07/09/2006
Student 3, Cyberia resident	LKW		12/10/2006
Student 4, Cyberia resident	LKW		15/09/2006
Student 5, Cyberia resident	LKW		20/09/2006
Student 6, Cyberia resident	LKW		05/10/2006
Student 7, Cyberia resident	MMU		12/10/2006
Student 8, Cyberia resident	MMU		14/11/2006
Student 9, Cyberia	MMU		15/08/2006

resident			
Student 10, Cyberia resident	MMU		28/09/2006
Government Worker 11, Cyberia resident		Government Worker	05/12/2006
Student 12, non-Cyberjaya resident	LKW		09/10/2006
Student 13, non-Cyberjaya resident	LKW		30/08/2006
Student 14, non-Cyberjaya resident	LKW		29/09/2006
Student 15, non-Cyberjaya resident	LKW		30/08/2006
Cyberia Resident 1		I.T. Worker	01/06/2006
Cyberia Resident 2		I.T. Worker	23/04/2006
Cyberia Resident 3		I.T. Worker	11/10/2006
Cyberia Resident 4		I.T. Worker	01/10/2006
Cyberia Resident 5		I.T. Worker	24/11/2006
Cyberia Resident 6		MMU Lecturer	21/09/2007
Cyberia Resident 7		LKW Staff	21/08/2006
Cyberia Resident 8		I.T. Worker	07/07/2006
Previn, CEO	Zerin Properties	Property Consultant in Klang Valley	05/10/2006
Monica, Execuitve Director	IBHD	Developer, I-City project in Shah Alam	09/11/2006
Jamal	UKM	Intelligent Cities expert	18/09/2006
Shariffudin	TH properties, Bandar Enstek	Marketing Manager	19/09/2006

Mohammad, Syed, CEO	TH properties, Bandar Enstek	Smart Home Developer	26/09/2006
Pravindran	The Edge Magazine	Editor of Technology Section "NetValue"	28/11/2006

(3) Time-space diaries

- LKW student 3
- LKW student 4
- MMU student 8
- MMU student 10
- Cyberia resident 3
- MMU student 9

Appendix 2: Maps

Map of Malaysia (Source: Wikipedia)